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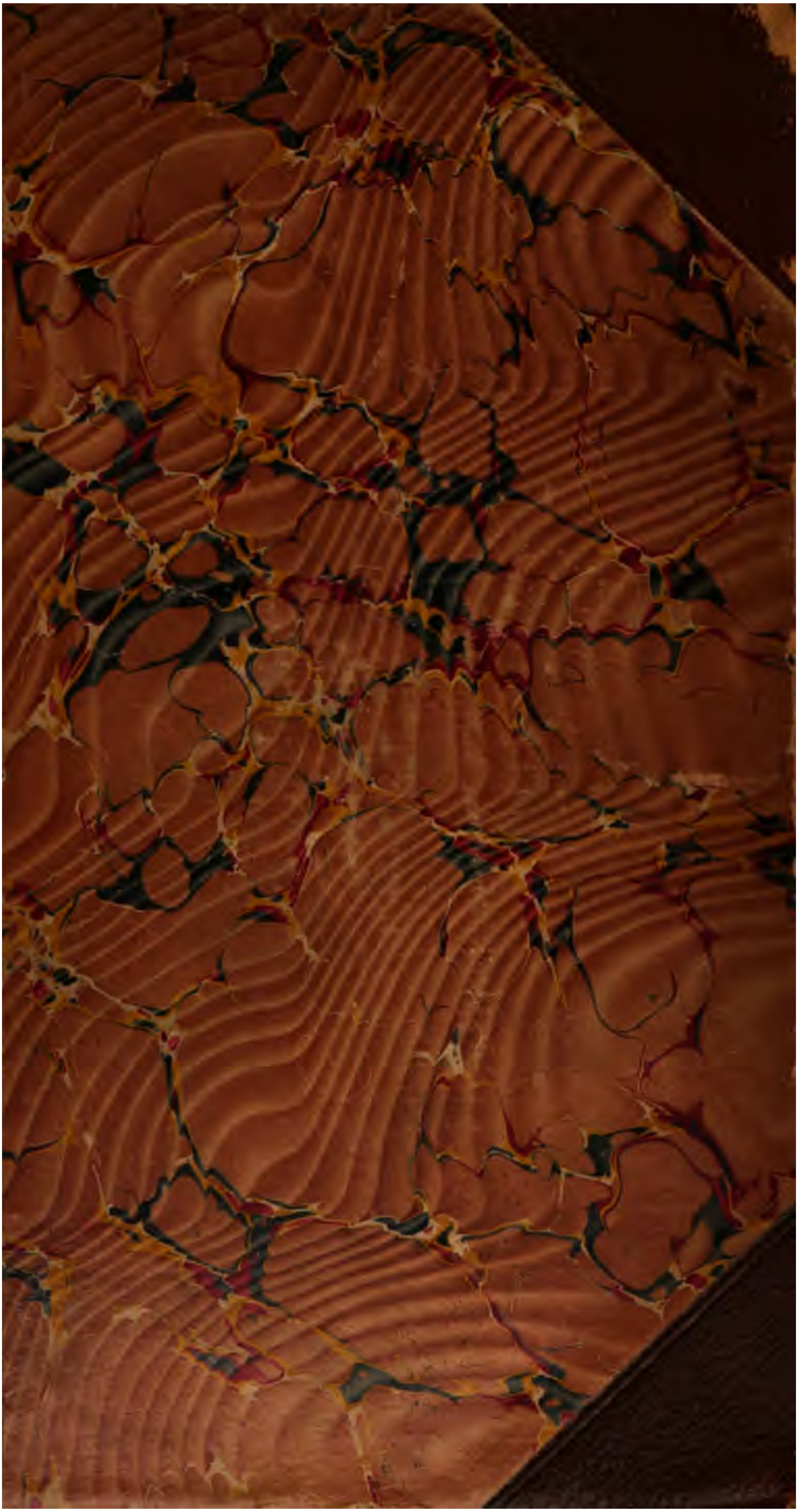

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THE BRITISH

JOURNAL OF DERMATOLOGY

UNDER THE DIRECTION OF

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THE BRITISH

JOURNAL OF DERMATOLOGY.

JANUARY, 1892.

AN UNUSUAL AFFECTION OF THE HANDS.

BY JOHN CAVAFY, M.D., F.R.C.P.,
Physician to St. George's Hospital.

I AM indebted to Dr. Charles Ewart for an opportunity of seeing this case:—

Miss L., æt. 25, was brought to me on December 5th, 1891. She stated that while in the Faröe Islands, in August, 1889, she first became affected with an eruption of small spots between the fingers. These were no bigger than pins' heads, and were accompanied by very trifling itching and burning, but unassociated with any constitutional disturbance. The spots continued to be observed until the following Christmas, by which time they had quite disappeared. She again visited the Faröe Islands in the following summer (1890), and the eruption recurred in August, the weather being then rather cold, which had not been the case in the previous year. The eruption was more extensive and severe than on the first occasion, and lasted until the summer of 1891. (The winter of 1890–91, it will be remembered, was exceptionally cold.) The affection again recurred early in August last, when she was at Lowestoft, and has continued to the present time. This attack is the severest of the three, and the only one in which vesicular lesions have been noticed, the former eruptions having consisted of "hard lumps" only.

The patient is one of ten children, of whom nine are living, one, a brother, having died of phthisis at the age of 26. Her father died of an "abdominal tumour," at the age of 51. She, herself, has always been considered "delicate," apparently for no definite reason. She has had scarlet fever, whooping cough, and measles, but never rheumatism. The hands have been red and cold from childhood, and she has had chilblains, the left ear being once affected. They have, however, only occurred occasionally, and have never been severe. There has been no Raynaud's disease.

She is a florid, rather tall, young woman, well-nourished, with brown hair and eyes. A pimple or two of acne are present on the cheeks and chin. The thyroid body is slightly enlarged; but there is no prominence of eyeballs, palpitation, or other sign of exophthalmic goïtre. Heart and lungs normal. Pulse regular, fairly strong. Urine normal. Tongue slightly furred. She is usually rather constipated, and has occasional headaches. Catamenia regular.

The hands are well-formed, the fingers slender, with no enlargement or thickening of joints or neighbouring parts; they are cold to the touch, red and congested. Both hands are affected with an eruption consisting of papules or nodules, with vesicles, and here and there a pustule. On the left hand, which is most severely affected, the lesions have the following distribution:—On the dorsal surface of all the fingers, the index especially; in the immediate neighbourhood of all the metacarpo-phalangeal joints; a few on the dorsum of the hand and along its ulnar border; one on the palm at the root of the little finger; one on the palmar surface of the thumb, and one or two on the tips of the fingers. On the right hand they have practically the same distribution, but are fewer in number, except on the ulnar border close to the wrist, where there is a large cluster. As already stated, the lesions are multiform; they vary in size from the diameter of a hempseed to that of a split pea, and are all extremely hard to the touch. The papules or nodules are especially 'shotty,' rounded or oval, sharply outlined, moderately raised above the surface, very smooth and shining on the surface, which is flattened and of a pale pink colour, which disappears completely on pressure. The vesicles are of two kinds; (*a*) they occur in the centre of the above-described flat papules, or (*b*) they are found, on the palmar surface only, completely dissociated from papulation, and deeply seated, many resembling the "sago-grains" of chiropompholyx.

The central vesicles above mentioned have, in some cases, a minute depressed central yellowish, brownish, or scaly crust or scab, which produces the appearance of umbilication; a large ringed peripheral vesicle is nowhere to be met with. The pustules are very few in number, scattered chiefly on the ulnar borders of the hands, and exactly resemble the central vesicles above described, with the exception that they contain pus. All the above lesions occur either discrete or grouped in clusters of three or more; they are not confluent except near the right wrist, where about ten papules have run together to form a very hard, nodulated patch, which has continued unchanged since last August. The lesions are all seated on normal skin, and there are no scars or pigmented maculæ.

The eruption is not associated with itching or smarting, and only occasionally gives rise to a slight sensation of heat. The lesions are very permanent, a few only subsiding, according to her account, from time to time, to be replaced by fresh ones. None of them are, or have been, hæmorrhagic, there are no telangiectases, and the feet and all the rest of the skin are quite free from eruption of any kind.

As I had seen no case precisely similar to this before, I thought it worthy of the attention of the Dermatological Society, and the patient was shown at the meeting on December 9th. The majority of members who saw her had the same experience (or want of it) as myself; but Mr. Jonathan Hutchinson (who was fortunately present) informed us that he had seen several similar cases, and that one of them, occurring in a young lady, was an almost exact counterpart of the case under consideration. He thought the affection was allied to chilblains, and was met with in those whose peripheral circulation was sluggish, with a tendency to venous congestion and coldness of the extremities.

Since the above date I have had another opportunity of seeing the patient (December 14th), and find a decided change for the better. Many of the lesions on the dorsum of the fingers and hands have faded greatly, and are plainly subsiding; the hard, flat, shining papules are losing their hardness and becoming diffused at the edges, while the vesicles and pustules have nearly all disappeared, leaving only small desquamating patches. There are, however, one or two new papules and vesicles, and the cluster near the wrist is quite unchanged.

To recapitulate shortly the characters of the affection: we have to do with a recurring eruption, limited to the hands, and chiefly on their dorsal surface; the lesions are multiform, and their course to complete disappearance very slow; they are worse in winter, but do not seem to be greatly aggravated by cold, as recurrence has taken place in August, and they are far more severe during the present mild December than during the extreme cold of last winter; no definite connection with chilblains can be recognized; it is true that they have been present, but both the patient and her mother declare them to have been only occasional and of the mildest type; finally, among the most striking characteristics of the lesions are their pallor and extreme hardness to the touch.

It is impossible not to be struck with the close correspondence in many particulars between the affection and erythema multiforme; the distribution of the lesions, their variable character, the flatness of the papules and nodules, all point in this direction; while pallor, hardness, and chronicity are certainly unusual. I am disposed, however, to consider the complaint an aberrant and rare member of this puzzling group; for which, if it should prove to be more than an accidental variety, I would suggest the name *erythema induratum*, which may serve to recall one of its chief peculiarities. It is, however, obviously premature to arrive at a final decision without further observations; and it is in the hope of inducing others to publish their experience of similar conditions that this case is now recorded.

ON A CASE OF TINEA IMBRICATA.

BY PATRICK MANSON, M.D., M.R.C.P., LL.D.

[THE greater part of the following paper was read before a meeting of the Medical Society of Hong Kong in 1888, and published in the journal of that Society at the time. Its great interest and importance, and the fact that it has been generally overlooked owing to the difficulty of access to it in its original form, prompted the Editorial Committee to request the author to allow of its publication in this journal. To this Dr. Manson kindly consented, and he has also partially re-written the article, adding much fresh matter so as to bring it up to date.—ACTING EDITOR.]

The patient I have the pleasure of showing you this evening is a healthy lad, 22 years of age, a native of Tiotchiu—a district not very far from Swatow. He came to Hong Kong some four weeks ago. He has never been away from his home before. He came here seeking coolie work; but, apparently in consequence of his skin disease, he has had difficulty in getting employment, and he has accordingly come to the Alice Memorial Hospital to get rid of the loathsome and troublesome affection that stands in his way.

You see that the whole of his skin, with the exception of the soles and forepart of the dorsa of the feet, the forepart of the hairy scalp, and the palms of the hands, is covered with disease. Not a square inch is free from peculiar, tissue-paper-like scales. There is no redness or injection or sign of inflammation of the skin anywhere, nor is there any evidence of irritation,—such as marks of scratching,—to be detected, although he says it itches sometimes in warm, damp weather. He appears to be undergoing a general, non-inflammatory desquamation or moulting. This, however, is not a passing or temporary phenomenon, such as might happen after some exanthematous fever; for, if we ask him about the duration of his disease, he will tell us that it has been in existence and persistent for upwards of three years; that it spread from the skin of the forehead and *gradually* overran the whole surface.

If we look carefully at one of the numberless scales, we find that it is perhaps half an inch in length by a little more than an eighth of an inch in breadth, that it has a free border, and that it is firmly attached by the opposite edge. It is, therefore, in this respect unlike the scales of psoriasis, pityriasis, or ichthyosis, which are generally exfoliated by separation all round their periphery, the last part, as a rule, to lose hold in their case being the centre. These scales, on the contrary, are like surgical flaps—free at one edge and continuous with the body at the other.

If we further analyze the arrangement of the scales we discover a pattern, so to speak. It is as if the disease had advanced in parallel and concentric lines from a great many different centres. Each line of scales is roughly parallel to the one in front of it and to the one behind it, the lines being from a quarter to half an inch apart. Where one system of concentric circles has infringed on another system the regularity of the pattern is broken and complicated and it may be difficult or impossible to make out; but the general impression conveyed is such as I describe. The arrangement is something like the rings of light and dark surface on watered silk, or of some kinds of moss on weather-beaten rock.

Further, all the scales are arranged so that the free border of each is towards the centre of the circle or system of circles to which it belongs; the attached border is, therefore, towards the periphery.

If we look carefully at the skin underneath the scales, where the ringed appearance is distinct, we observe that it is paler than the general surface; whereas the skin just at the attachment of the scales is rather darker.

If we detach a scale and place it, after moistening with *liquor potassæ*, under the microscope, there is no difficulty in seeing a most luxuriant growth of a fungus resembling in many respects the ordinary tricophyton, but differing slightly from it in some details, more especially in its prodigious abundance. You can see in certain parts of the scales I have placed under the microscope that the fungus lies layer upon layer, the strings of conidia and mycelial filaments being packed almost as closely as they can lie. One never sees such abundance of epiphytic growth in ordinary tricophyton disease, and I look on this profusion of fungus as one of the distinguishing features of the disease I am describing.

We appear then to have to deal with an epiphytic skin disease. If this conjecture is correct the disease ought to be communicable by inoculation. A good many years ago I made the experiment several times with the result that, after a sort of incubation stage of ten days, a minute, slightly elevated, brown spot appeared at the site of inoculation. After seven more days this spot had increased in diameter to three-eighths of an inch, and the epidermis had ruptured in the centre and become separated from the underlying skin for some distance outwards. In another day or two the ring thus formed had acquired a greater diameter and had a scaling periphery exactly resembling the disease in the patient from whom the virus, if I may so speak of it, was derived. Furthermore, in the centre of the circle a brown, slightly elevated spot had once more developed. The outer ring continued to expand, and the brown spot in the centre to increase in diameter and its centre to break down; so that in a short time there were two rings of scales, one inside the other. When these two rings had opened somewhat, a third began to form from another brown spot in the common centre; later on a fourth; and when I thought it prudent, in the interests of the students who kindly lent me their arms for experiment, to kill the fungus, there was generally a series of five concentric circles of scaling epidermis, the outermost of which had a diameter of one inch and a quarter. This took about thirty or forty days to develop. The rings were, therefore, about an eighth of an inch apart and appeared to be advancing at the rate of an inch in twenty-five to thirty days. A flake of epidermis from any part of the ring placed under the microscope was found to be covered with a fungus similar to that found in the original disease, and it was also present in the same luxuriant profusion; and it was evident that the brownish appearance about the skin at the attached edge of the scales was due to the colour of the fungus when seen in dense masses, and not to ordinary skin pigmentation. The brown colour of the central spot from which the rings originated was also evidently owing to the colour of the fungus, just as the fawn colour of pityriasis versicolor is due to the colour of the microsporon furfur. This brown pigmentation is very readily observed if the scales of loosened skin are removed by prolonged immersion of the patient in a warm bath, and the vigorous use of soap and water and a rough towel. When by these means the scales are removed, the body is seen to be marked by parallel brown lines, which observe a more or less concentric arrangement just as the lines of scales do. The colour of these lines,—which are about a tenth of an inch, or thereabouts, in breadth, and often many inches in length,—is rather darker than the fawn colour of pityriasis versicolor. If the skin of the patient is very dark they may appear lighter than the natural colour of the healthy integument. In Chinese whose skins have been darkened by much exposure, and in the dark-coloured negro races, the spots of pityriasis versicolor may appear lighter than the surrounding healthy skin, the fawn colour which evidently resides in the fungus concealing the subjacent skin pigment. The same remark applies to tinea imbricata; the brown colour resides in the fungus, and can be seen with the microscope as little granules in the interior of the mycelial filaments (see figure on page 13).

I was perfectly familiar with the ordinary body ringworm, Dhobie itch, Tinea corporis, Tinea circinata, Herpes circinatus—or whatever may be the name chosen to indicate ordinary tricophyton disease. Any one with a very short experience of Chinese hospital practice must see plenty of it. But this scaly ringworm was quite different in appearance and habits from the ordinary type; I learned to call it Tinea imbricata—imbricata from the imbricated arrangement of the scales—and to note the following points as diagnostic between it and the ordinary ringworm.

In the *first* place, ordinary ringworm, though sometimes occupying a considerable surface, seldom, if ever, affects the entire body, or even an entire limb; whereas the scaly ringworm or, as I prefer to call it, Tinea imbricata, if it has been in existence any length of time, occupies a very large area, generally a great part of the trunk and much of some or all of the limbs. *Second:* ordinary ringworm affects, as is well known, the hairy parts of the surface; Tinea imbricata rather avoids these. I observe that Königer (*Virchow's Arch.*, 1878, No. 72), says that it appears to cause falling of the body hair. I cannot confirm or positively deny this statement. Certainly, though Tinea imbricata generally spares the scalp, in the cases in which this part is involved, the hair on it is in no way affected. *Third:* the active part of an ordinary ringworm is marked by inflammatory swelling of the derma, redness and often vesication, and much itching. In Tinea imbricata there is seldom if ever, unless under peculiar circumstances, any sign that the fungus is exciting even the most superficial inflammation. *Fourth:* the ring of ordinary ringworm, in the great majority of instances, is single. After it has expanded very much it may include one or two little points of tricophyton infection, but, practically, it may be considered as a single ring* advancing and opening out, the tricophyton living apparently on some element of the skin which is not quickly reproduced; thus a long interval of time must elapse apparently before the skin over which the fungus has passed can recover sufficiently to support a fresh crop. It thus advances like lupus, or a serpiginous syphilide, eating away and advancing at one border, while abandoning the ground it has travelled over and permitting it to heal. Tinea imbricata, on the contrary, left to itself, never gives up ground it has once occupied. The fungus advances just between the epidermis and rete, destroying their continuity and scaling up the scarf skin. As soon as the epidermis is reproduced the spores which have been left behind germinate and the mycelia attack it, burrowing underneath and throwing it off again, and so on in never-ending series. The distance between the periphery of one ring and the periphery of the succeeding ring is the measure of the time required to reproduce the epidermis. If I might make a pathological simile I would say that Tinea circinata is like one of the continued fevers which, when it has once attacked a man, confers immunity from subsequent attack for ever, or, at all events, for a very long time; whereas Tinea imbricata is like a malarial intermittent fever which recurs at regular intervals of one or two days, one attack conferring no immunity, but rather implying increased liability to subsequent attacks. The parallel is not quite accurate, for Tinea circinata does recur in spots that have been previously affected, but the simile I employ may help you to understand my meaning and bring out the distinctive features of these very different diseases. *Fifth:* if there are any scales about an ordinary ringworm as a rule they consist of dried inflammatory exudation, or minute branny particles of epithelium. In untreated Tinea imbricata the scales are always present, always abundant, always large—often

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* I have seen pictures and read descriptions of rare cases of ordinary ringworm of the body in which there were a number of concentric and, more or less, perfect rings (see figure on next page). But in these cases the patches were comparatively small, two or three inches at most in diameter, and the rings were far apart, red, elevated, furfuraceous and itching, and altogether very different in appearance from the scaly, non-inflamed, closely-set rings of Tinea imbricata.

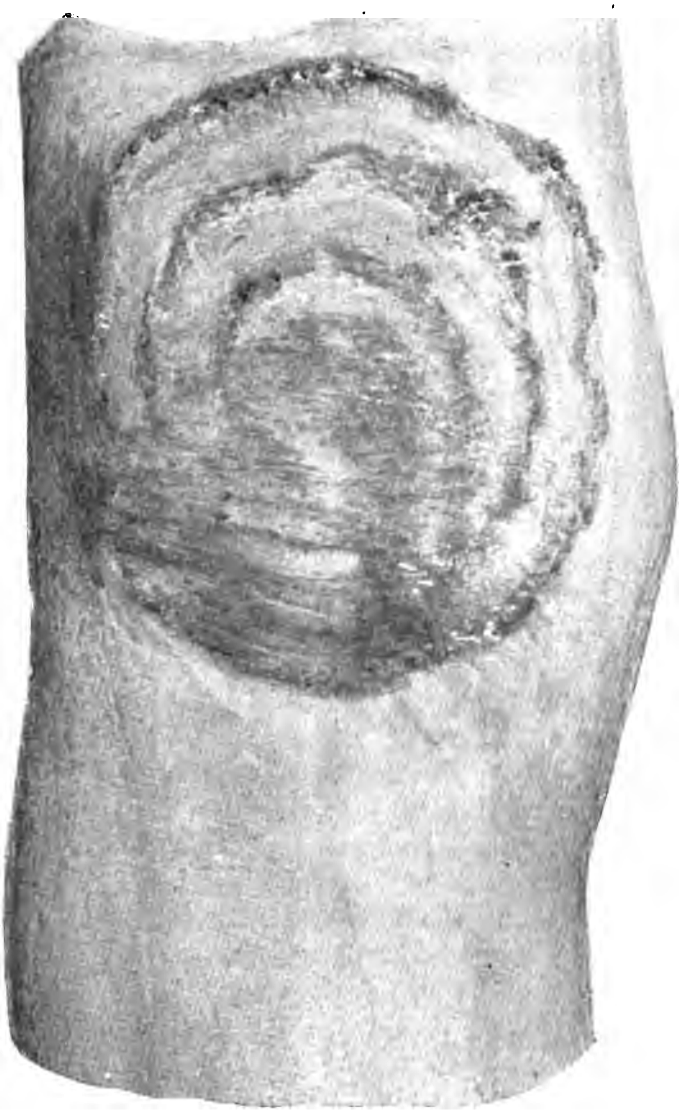

FIGURE 1.—From a drawing formerly in the possession of Dr. Tilbury Fox, illustrating concentric arrangement of rings in a case of Tinea circinata.

an inch in length, by a quarter or even half an inch in breadth. So abundant are the scales that the air around the patient may be full of them when he takes off or shakes his clothes. It is often with difficulty that sufficient epidermis can be got from ordinary ringworm for microscopical examination, even by scraping the ring with a knife; no knife is necessary to procure specimens from Tinea imbricata, for, with the assistance of a pair of forceps, it is generally an easy matter to pick off the patient in the course of half an hour enough epidermis to fill an ounce bottle. *Sixth :* in ordinary ringworm the fungus is often hard to find and is seldom very abundant; in Tinea imbricata it is easily found, and is in great profusion lying in layer upon layer of interwoven spores and mycelium. *Seventh :* inoculation with fungus of Tinea imbricata produces a Tinea imbricata; whereas, inoculation with fungus of Tinea circinata produces a Tinea circinata. I have inoculated the same subject with the two diseases simultaneously; twice I have made this experiment, one arm with circinata, the other arm with imbricata, and the resulting diseases had the distinguishing characters of their respective species. *Eighth :* Tinea circinata is world-wide in its distribution; Tinea imbricata is confined as yet to a limited area.

I am particular in giving the points of contrast and diagnosis between these two diseases, as the authorities in Europe have shown great reluctance in admitting the claims of Tinea imbricata to the dignity of being a specifically distinct disease. For the most part they have followed the lead of Tilbury Fox in this matter. In making their new books authors too often shirk the trouble of personal investigation and verification of the statements in the older books; and so they slavishly copy error, and error is transmitted through successive generations of text-books and perpetuated for an indefinite length of time. Thus Tilbury Fox, who probably had never seen a case of this disease in his life, but had only read imperfect descriptions of it and examined a few scales—necessarily very old ones—with the microscope, pronounced it an aggravated form of ordinary body ringworm, its peculiarities being the result of climate, race, and personal habits. Many of his successors in the literature of dermatology copy this opinion; but were they to see the patient I bring forward this evening and carefully investigate his case and the facts now known about this disease, it is impossible that the candid and well-informed among them could persist in refusing to admit the claims of Tinea imbricata to be ranked as a separate and distinct disease. Some recent writers: Duhring, Thin, Siegfried,* and one or two others have recognized these claims and, I have no doubt, in time this recognition will become general; meanwhile Tinea imbricata, though the most striking of all the epiphytic skin diseases, has, to use a vulgar expression, to take a back seat.

It is hard to convince metropolitan pathological authorities that there is anything in the way of disease that has not been exhibited at one or other of their Societies. If a big authority pronounces against a disease his fiat is final, and the disease must not be. They forget the world is very large, that the four or five capital cities of Europe from which they draw their experience are insignificant points on the globe, and that there are diseases unknown to them among the few hundred millions of mankind they choose to ignore, and who live under conditions vastly different from those obtaining in Europe. To say that Tinea imbricata is but an aggravated form of ordinary ringworm is like saying that the oak-tree is but an aggravated form of the familiar thistle. Were it only a form of Tinea circinata why is it not found in the West Indies, tropical Africa, and tropical America, where the climate is like that of the Pacific islands and Malay archipelago (the acknowledged home of the disease) and the inhabitants often dirty enough in their habits? Tinea circinata is common there, yet it has not under the influence of climate and dirt assumed the characters of the imbricata species; at least, such has not been reported in medical literature. The inoculation experiments which nature makes, and which in imitation of nature I made many years ago, are conclusive as to the essential difference of the diseases. The true explanation of the absence of the imbricata type of ringworm from the countries mentioned lies in the fact that hitherto the particular species of tricophyton producing it has never been introduced there. Absence of certain conditions of climate and race have nothing whatever to do with it. I venture to predict that when introduced, as surely it will be in the near future, it will thrive and spread in those warm, damp tropical climates from which it is at present absent as certainly as the rabbit and the sparrow have thriven and spread on the congenial soil of Australia.

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* I should now add Hirsch, McCall Anderson, Crocker, Besnier and Doyon in their translation of Kaposi, and Rowe.

"But," some may say, "if the fungus of Tinea imbricata is specifically distinct from the fungus of Tinea circinata, and if that is the cause of the difference in the appearances of these diseases and not climate or race, as Tilbury Fox and others maintain, why is it the disease is not to be found in northern latitudes?" I will answer this question by asking another. Why is it that ringworm, so common in the scalp of children, is so rare on that of youths, and almost unknown on that of adults? Why is it that the microsporon furfur generally attacks the skin of the front of the chest, less frequently that of the back, and very rarely that of the legs? Or, why is it that this last-named parasite thrives luxuriantly on one skin and not on another? I have often known such cases as a husband being for years the subject of pityriasis versicolor and his wife enjoying complete immunity, and *vice versâ*. Why is it that the exanthematous fevers are so common in children and so little prone to attack adults? The fact is that many—most of the parasites are fastidious feeders and of delicate habits. Tricophyton thrives upon a child's hair and does not like an adult's; microsporon furfur likes the skin of the chest but not that of the forearm, prefers husband to wife, or wife to husband. All the epiphytics dislike the senile integument and, like the virus of the exanthematous fevers, prefer the young. Some even,—that of favus, for example,—like the spirillum obermeieri, prefer to prey on the undernourished and starving. The fungus of Tinea imbricata like all of these has its tastes, and one of its tastes is a warm and moist climate.

One would think that important evidence for the discrimination of the respective parasites of Tinea circinata and Tinea imbricata would be afforded by the microscope. This is far from being the case. I think there is a difference in the average dimensions of the fungi, and I think that the conidia are differently shaped and somewhat differently arranged; but in both there is great variety, and these varieties insensibly grade into each other. There is no question that in imbricata the fungus is infinitely more abundant than in circinata, but quantity is not a quality which can be regarded as absolutely distinctive and conclusive. These fungi are not alone in refusing to yield distinctive evidence from their microscopical features. In the case of minute organisms generally morphological character is always an untrustworthy means of distinguishing species.

The bacteriologist, for example, cannot always or even generally discriminate with his microscope one species of bacterium from another, and he must have recourse to a variety of cultivation and inoculation experiments, by watching which and the behaviour of the bacteria in different media he differentiates the various species. So with the fungi of Tinea imbricata and Tinea circinata. It may be difficult or impossible to say from microscopical examination alone that a given specimen is circinata or imbricata; but by observation of the disease it is derived from, and by an inoculation experiment, we can at once bring out specific characteristics. Nevertheless, there are points which we may gather from a microscopical examination—more especially the situation of the fungus on the under surface of the epidermis, its not implicating the hair, and its extreme luxuriance in Tinea imbricata,—which afford very important, if not absolutely reliable, evidence for recognition and differentiation. Important results might be arrived at from a series of carefully-conducted cultivation experiments. Those by Thin (" Pathology and Treatment of Ringworm") might serve as a model. They would require, however, to go further than Thin's experiments, which did not extend to the production of the fructification of the tricophyton fungus. To give reliable results such experiments would require to be conducted with

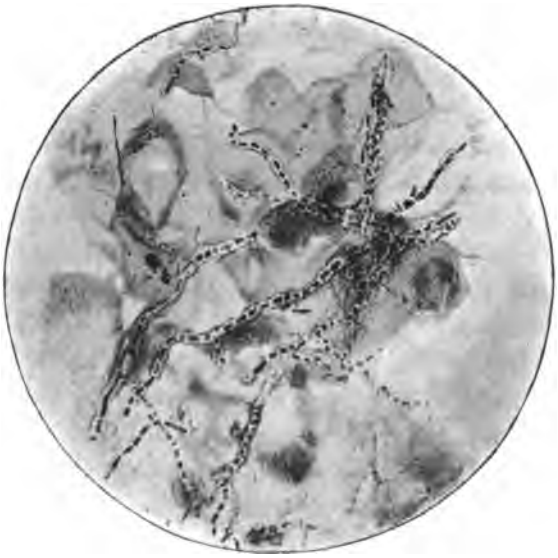

FIGURE 2.—Fungus of Tinea imbricata, from an old preparation (× 375 diameters).

great care. Doubtless, the scales of Tinea imbricata are infested with a variety of moulds (besides bacteria) other than the specific, disease producing one. To keep these extraneous moulds out of the cultivations would be very difficult. I would suggest to any one proposing to make the attempt that the cultures should not be started from old scales, but that these should be employed only to inoculate some as yet unaffected part of the skin, and that only the unbroken skin from this should be used to start the cultures with. It might be raised up with a sterilized needle about the tenth or eleventh day after inoculation, when a characteristic brown spot will indicate the presence of probably a pure culture of imbricata fungus. Prior to inoculation the skin ought to be washed with alcohol and ether and subsequently protected from contamination by a large pad of sterilized cotton-wool.

Dr. Guppy, in his admirable work on "The Solomon Islands and its Inhabitants," published in 1887, follows Dr. Tilbury Fox in regarding the imbricata ringworm he observed there as but a variety of Tinea circinata. A fact to which he attaches much importance as bearing out this opinion was, that the English sailors got Dhobie itch from the natives with the scaly ringworm. But there is no reason why the form of intertrigo called Dhobie itch should not be produced by a variety of causes. Simple sweating and friction we know will do it, syphilis will do it sometimes, and so will the scratching associated with parasites on the scrotum. Usually, of course, it is produced by the tricophyton, but why should it not be also at times caused by other parasites—that of Tinea imbricata, for example? In fact it is quite likely, and in consonance with the tastes of this parasite, that the warmth and moisture of the crutch and armpit should afford it a favourable nidus. The irritation, scratching, and maceration of the scales by perspiration would soon destroy the distinguishing features of the disease. Had Dr. Guppy inoculated the arm of one of his sailors from their Dhobie itch, I venture to think he would, in some instances, have produced the scaly disease he saw among the natives, and not in every case an ordinary ringworm.

I think we may safely conclude that Tinea imbricata is not simply Tinea circinata modified by climate. As regards Tilbury Fox's other assertion that personal habits (meaning, I suppose, personal uncleanliness) produce it, I would say that any one who knows about the habits of the Malay knows that he is particularly cleanly in his person, that as a rule he washes his body daily, and this is a good deal more than we can say for the natives of Europe. Similarly the assertion that race has something to do with it, is as easily upset. I show you to-night two Chinese, one with ordinary ringworm well developed and quite typical in character, and also our imbricata patient about whose disease also there can be no mistake. The difference, therefore, must be in the fungus and not in the man or in his racial qualities, his habits, or in the climate he lives in.

The distribution of Tinea imbricata is peculiar. Its home, undoubtedly, is the Malay archipelago; here it is indigenous, and from this it has spread east and south to many of the islands of the Pacific and also northwards into China. There is historical evidence of this extension. For example (as pointed out by Dr. Turner),* Samoa some few years ago was free from this loathsome disease, but a native of Tokelau (Bowditch Island) came to Samoa with the disease on him and from him it spread and is now firmly established on the island. In the same report (1869) Dr. Turner writes:—"It was unknown at Bowditch until about ten years ago, when it was introduced by a man, copper-coloured like themselves, and said to be a native of Tamana (one of the 'Gilbert Group'), who landed from a whaler that called there. His name was Peter, and hence the disease is called at Bowditch *le Pita*—the Peter." From this little history we see how the disease has crept from island to island, and how, doubtless, as communications extend, it will continue to spread.

By far the best account of the distribution of the disease is that given by Dr. Guppy in the work I have already referred to. This accomplished and very reliable observer gives references to his authorities in proof of the existence of the disease in the following islands: the Solomon Islands, where in some parts two-fifths of the inhabitants are affected; the Florida Islands, where quite one-half are affected; Treasury Islands, where four-fifths of the people are affected; the Elice group; New Guinea and neighbouring islands; Sumatra; Timorlaut; Buru; the Philippines and the Ladrones. I would supplement this record by adding, on the authority of Dr. Rowell and Dr. Simon, of Singapore, the Malay peninsula; and on the authority of the late Dr. Storey, of Sarawak, and Dr. Walker, of Sandakan, and other sources—the island of Borneo. Lately Mialaret (*Arch. de Méd. Nav.*, 1891, July and October) has met with the disease in Maré, Loyalty Islands, and in New Caledonia. Hirsch ("Handbook of Geographical and Historical Pathology"), usually so accurate, has fallen into error in quoting Corre (*Arch. de Méd. Nav.*, November, 1888, 408) as authority for the existence of Tinea imbricata in Nossi-Bé, Madagascar. Corre's description evidently refers to forms of ordinary body ringworm and to pityriasis versicolor. Crocker repeats Hirsch's error.

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* Also by Königer, *loc. cit.*

It seems to me that a warm, damp, equable climate is necessary for its rapid development and spread. Extreme heat, such as we sometimes get in China, seems unfavourable, and so is the dry cold of the north-east monsoon; the former seems to stimulate the growth of the fungus too much, until it acts as an irritant and causes inflammation of the skin, which appears (just as occurs when in greater degree in Tinea circinata) to lead to the death of the fungus; dry cold on the other hand checks its spread by drying and hardening the epidermis. The effect of high temperature I once observed in the course of an inoculation experiment I made some years ago. An arm had been duly inoculated and the fungus grew and throve apace and ring followed ring in regular order; but the weather suddenly becoming excessively hot the rings itched and inflamed, broke up into segments, and then finally vanished. Conversely, inoculations do not succeed well in the cold weather when the skin is very dry. An atmospheric temperature of from 80° to 85° F., and a skin kept soft with an insensible perspiration, seem the conditions most favourable for the spread of Tinea imbricata. Its fungus is not so hardy as the tricophyton tonsurans and is more readily killed by inflammation and peculiarities of climate.

It would seem that the conditions of climate necessary and favourable for the fungus of Tinea imbricata are the same as those necessary and favourable for the cocoanut, and I think that in time the distribution of the humble hyphomycete will become co-extensive with the distribution of this stately palm. Both we find in China, but neither thrives well here; they are about the outside of their geographical limit. The cocoanut palm will grow as far north as Hong Kong and Amoy, or Foochow even, but not well, and the fruit does not mature; similarly, Tinea imbricata is found in these places, but it is more or less of an exotic, and does not spread freely. A Chinaman returning from the Malay islands may bring it with him, and the disease will maintain its hold on him personally, and he may give it to one or two of his neighbours, but it does not spread from man to man as it does when it strikes new soil in some of the Pacific islands.

Tinea imbricata is in the enviable position—so rare in medical subjects—of having a very small literature. As you may suppose, from the character of its distribution, it has acquired many names—Tokelau ringworm, Le Pita, Lafa Tokelau, Bowditch Island ringworm, Herpes desquamans, Tinea circinata tropica, Ichthyosis, Buckwar, South-west gune, are a few of them. Many years ago I wrote a short description of this disease in answer to a circular from the Foreign Office calling for information on endemic skin diseases in India and other foreign countries; this was embodied in a work edited by Drs. Tilbury Fox and T. Farquhar, and entitled:—"On certain Endemic Skin and other Diseases of India and Hot Climates generally," published in 1876. About the same time I wrote a more detailed account of it for the medical reports of the Imperial Maritime Customs, China (No. 16, 1879), under the title of "Tinea imbricata—an Undescribed Species of Body Ringworm." As so often happens to workers who have no access to large libraries, or to those who do have this privilege but do not take advantage of it but rush into print before ransacking the byeways of medical literature, I thought I was first in the field, and, in a small way, a discoverer. In the works on skin diseases of that day there is no mention of such an affection, and as far as I myself was concerned I made the claim honestly; but, like many another aspirant to fame, I find that I have been anticipated by a number of observers and travellers, for, even as early as 1729, the famous Dampier in his "Voyage Round the World" gives a recognizable description of the disease as affecting the inhabitants of Mindanoa, in the Philippines, and of Guam, in the Ladrones. Again, at the end of the eighteenth century, Dentrecasteaux saw the disease in Tonga; and in 1811 Marsden describes it as common amongst the natives of Polo Mas, on the west coast of Sumatra. Since that time it has been frequently described or alluded to with more or less accuracy by travellers. The true nature of the disease was first recognized by the medical officers attached to the United States Exploring Expedition, under Commodore Wilkes, in 1841.* Dr. George Turner gives a description of it in the first "Report of the Samoa Medical Mission, 1869," and again in "Notes of Practice in Samoa" in the *Glasgow Medical Journal*, August 1870. In the *Lancet* of August 29th, 1874, Dr. Tilbury Fox wrote on "Tokelau Ringworm and its Fungus," basing his description of the latter on what he observed in some skin-scrapings he had received from Samoa. I suspect, from the drawings he has given of the fungus, that these scrapings had not been sufficiently dried before being packed; for in fresh specimens I have never seen such an arrangement of conidia as represented in his *Fig.* 2. It may be a development of the imbricata fungus, but I suspect it is a mould of some other description. I have observed that, if not carefully dried before being put away, the scales from this disease rapidly assume a bluish-black appearance, probably from the growth of some extraneous fungus. Developments of different kinds, both of the specific fungus and of extraneous fungi, go on, I am convinced, in dried scales after their removal from the body. I have observed that in freshly-removed scales the strings of conidia are much more plentiful in proportion to the mycelial threads than they are in older scales. Extraneous fungi certainly advance in development. I possess sketches of three different forms of mould fructification, an aspergillus, a mucor, and a penicillium, from Tinea imbricata scales which had been stored away in a bottle for two or three weeks. It is manifest, therefore, that no reliable conclusions can be drawn from observations such as those of Tilbury Fox on the fungi in old scales. The next notice of the disease from a medical pen, as far as I know, is by Dr. (now Sir William) McGregor, of Fiji, in the *Glasgow Medical Journal*, and specimens of the scales were shown at the Glasgow Pathological and Clinical Society, April 11th, 1876. Allusion is again made to the subject in the *Glasgow Medical Journal* of July 1876. Then comes Drs. Fox and Farquhar's publication in 1876. Dr. McCall Anderson gives a description of the disease in the September, 1880, number of the *Edinburgh Medical Journal*. Since that date we find it adopted by some writers of skin disease books and ignored by others. Dr. Guppy's recent book of travels (1887) will, I think, do much to put

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* "Narrative of the U.S. Exploring Expedition," 1844, vol. v. p. 401.

Tinea imbricata in its proper place, although he himself has not quite conceded this.*

As regards treatment, I may say that the fungus, lying so superficially, is easily attacked and killed by almost any epiphyticide; but, owing to its profusion, and the great extent of surface usually involved by the disease and consequent saturation of the patient's clothes with the fungus elements, relapses very generally occur. In all cases clothes and coverings ought to be burned or boiled during treatment. I have been in the habit of applying the linimentum iodi, taking a limb or part of the body at a time. This quickly kills the parasite and,if the precautions I have mentioned about clothes and coverings are taken, cures the disease. But it is very hard to get a Chinese coolie to part with his venerable rags, and, accordingly, relapses are the rule. It appears that sulphur ointment is found efficacious in the labour ships of the South Pacific. As I have said, any epiphyticide will suffice, provided it is thoroughly applied and clothes and coverings destroyed. In the case of the patient shown to the Society. I tried the effect of a bath of sulphuret of potassium; although persevered with for a good many days, it did not effect a cure, and I had to have recourse to the linimentum iodi treatment, which I have generally found to be the surest, safest, and most acceptable remedy for all forms of trichophyton disease in dark-skinned races. The liniment ought to be double the strength of the present pharmacopœial preparation. MM. Bonnafy and Mialaret describe a treatment by sulphur fumigation adopted in Fiji which seems to be fairly successful; but they say as many as twenty fumigations, practised at intervals over a period of two months, may be necessary.

* When I wrote the above, I was not aware of Königer's paper in *Virchow's Archiv.*, already referred to, nor of Meerdervoort's description of, apparently, the same disease under the name of "Cascadoe," in the *Niederl. Tijdschr. voor Geneesk.*, 1859, iii. 629. The latter writer describes the disease as common in Gisser, Calietaroe, Ceram, Ceram Laut, Goram, and the Aroe islands. In the *Arch. de Méd. Nav.* for October, 1891, there is an excellent article on the same subject by MM. Bonnafy and Mialaret, in which they describe the disease as occurs in Fiji.

CLINICAL NOTES.

A CASE OF MONILETHRIX.

BY PHINEAS S. ABRAHAM, M.D.

G. N., a well-nourished girl, æt. 2, was sent to me by my friend Mr. Boyton, of Forest Gate, on August 14th, 1891, and was admitted as an out-patient at the Hospital for Diseases of the Skin, Blackfriars, under Mr. Waren Tay.

The child appeared, when she was first seen, from a little distance, to be practically bald, and the idea at one arose that it was a case of congenital alopecia. On closer inspection, however, it was seen that the whole scalp was covered with short and almost colourless hairs, on the average not more than 1 cm. in length, and it was soon evident that the hairs were extremely brittle, breaking off in the fingers, and that it was impossible with forceps to pull them out with the roots attached. There was observed also a considerable amount of follicular inflammation of the scalp, leading, in some places, to the formation of pustules. Examined with an ordinary lens, it was apparent that each hair was curiously beaded, or "moniliform," and that we had to do with one of those rare cases to which attention had been drawn, some ten years ago, by Dr. Walter Smith, of Dublin. The hairs appeared mottled, and the slight amount of pigment present was chiefly congregated in the swollen nodes. On carefully scraping the scalp, although most of the hairs so obtained were broken off and exhibited no bulbs, a few showed the latter atrophied and twisted. Under the microscope the appearances were as follows :—The hairs, or at any rate the fragments obtained, were not of uniform length or thickness, the longer ones being thinner; but they all showed fusiform thickenings at approximately equal intervals, the internodes being sometimes very thin, and here showing a double contour, where the cuticle was visible. In all cases the nodosities extended throughout the length of the hair, and in the longer ones as many as twelve and fifteen were counted. In many of the internodes, especially in the case of the shorter hairs, partial or commencing fractures were seen, situated about halfway between the swellings. With a higher power (obj. $\frac{1}{8}$), it was evident that these fractures were not clean: there was an annular split in the cuticle, completely or incompletely encircling the hair, with a more or less fraying-out of the cortical substance; and at the ends of the broken hairs the same fraying-out of the substance of the hair was observed. There was no sign whatever of any breaking at the swellings. The hairs exhibited comparatively little pigment, and its deposition was somewhat irregular. Most of the swollen nodes, however, showed more scattered granules and elongated dark masses than the internodes, and in some of them there was quite a large collection of pigment occupying the centre as well as air-spaces. From this description it will be obvious that the case is quite distinct from "Trichorrhexis nodosa," or from the "Pili annulati" of Karsch. Certain indications raised the suspicion that there might be micro-organisms present within the substance of the hair, and several specimens have been stained by Gram's method, and in other ways, for the elucidation of this point: their examination, however, is not yet concluded.

The mother is aged 21, is of clear complexion, and has medium-coloured hair. She was in bad health when pregnant with this, her first child, who was born at seven months. She now has another infant aged ten months, and the latter is stated to have quite normal hair. The father, a young man, is healthy, and of medium complexion. Both the parents declare positively that there has never before been noticed any affection of the hair in any member of either family.

It appears that the child G. N. was born with a very little hair, and that this latter became more scanty, and remained so until we saw her. She had been treated with various ointments and lotions, some of which had caused much irritation, but without any effect in making the hair grow. Since her birth she has always been in the best of health. Since October a noticeable improvement has become apparent. Although the majority of the hairs on the child's head are much in the same condition as before, numerous comparatively healthy hairs have sprung up, very thin, but without the moniliform character or brittleness, and with more uniform pigmentation. The treatment has been inunction with 10 per cent. chrysarobin ointment, and occasional application of Burt's fluid.

In most of the cases hitherto recorded, *e.g.*, by Dr. Walter Smith, Dr. McCall Anderson, Dr. Payne, Dr. Radcliffe Crocker, Dr. Colcott Fox, and others, the affection has not only been congenital, but several members of the same family have been similarly affected, and sometimes through several generations. The view that is most current is that the change is developmental rather than pathological; but if the bacillary hypothesis be accepted we may suppose it possible that the microbes may gain entrance into the hair shortly after birth, in certain cases where the hair is naturally scanty and ill-developed at that period. This, of course, has yet to be proved.

A CASE OF DOUBLE ZOSTER ON THE SAME LEVEL.

BY GEORGE CARPENTER, M.D., M.R.C.P.,

Physician to the Evelina Hospital for Children.

Bilateral Zoster is so very uncommon that I place on record the following case occurring in a child. Kaposi in his lectures refers to several cases, but not on the trunk, and Besnier and Doyon, in the second French edition, remark: "We have never seen *double zona*, in many years of observation on a vast scale: we do not deny its existence, and we will not undertake the easy task of showing that several reported examples are at least contestable." As regards the literature in our own islands the observations are very few. In "Neale's Digest" only three references are given. In the *Med. Times and Gaz.*, April 1, 1865, a case under Mr. Thomas Bryant, of Guy's Hospital, is reported and illustrated. In a man, aged 49, the eruption began opposite the spines of the fourth, fifth, sixth, seventh and eighth right dorsal vertebræ and extended across the breast to the sternum to join the eruption on the left side. On the left side the zoster began opposite the spinous processes of the fourth and fifth dorsal vertebræ, and it also involved the anterior and inner surface of the arm and forearm as far as the wrist, and posteriorly it followed the line of the deltoid muscle. The original drawings are at Guy's Hospital. Mr. Balmanno Squire (*Med. Times and Gaz.*, May 10, 1873), recorded a case in a boy of 15, in whom the two halves of the zone were not quite symmetrical as to configuration of the component clusters, but perfectly so as to level. On each side the eruption began opposite the seventh spinous process. Dr. Magee Finny, of Dublin (*Brit. Med. Journ.*, vol. i. 1885, p. 67), saw a case in a female, aged 40, in whom branches of the cervical plexus of each side were involved, but not symmetrically. Jenner and Woakes have also met with instances.

Florence Wells, æt. 4 years, three weeks before attending the Evelina Hospital for Children, complained of pain below the right nipple, and in about a week's time an eruption appeared at this spot.

When seen there was a zoster eruption on the right side, starting from the lower dorsal spine and passing across the front of the chest at and below the nipple level to a point well to the left of the end line of the body.

On the left side the eruption commenced at the spine, on the same level as that on the right side, and reached to the posterior axillary line.

The eruption on the right side was in excess of that on the left in quantity as well as in extent.

Some of the lesions, which varied in size from a pin's head to a large split pea, showed a vesicular margin, surrounded by a red halo, with central green and black slough-like areas—others were eroded.

She quickly recovered, the sores being dressed with ung. hydrarg. amm.

REVIEWS.

LEPROSY.*

CONSIDERING the amount of attention which has been devoted to leprosy in recent years and the sudden interest and excitement fostered by various agencies both amongst medical men and the public, we should have thought that there would have been a pressing demand for some convenient handbook which rival authors and publishers would hasten to supply. It is therefore a matter for congratulation that one so well fitted for the task as Dr. Thin should have supplied the deficiency; for if a convenient handbook was needed it is well that it should be written by a competent author, who is well known to take a great interest in the subject. That such a handbook may prove useful and interesting to many we quite believe, for there is no satisfactory work up to date in English dealing with leprosy, and we only have articles in dictionaries and treatises on skin diseases on the one hand and elaborate works like that of Vandyke Carter on the other. Hillis's treatise most nearly supplies our requirements, and that excellent work is now somewhat out of date in many respects. The task is not altogether an easy one, for the literature is enormous, and to present a full, true, and particular account of the disease in the light of modern investigation within a moderate compass and in a readable form requires a skilful hand.

In his preface Dr. Thin thus defines his task: "One of the chief objects of this book is to systematize, for the convenience of the medical profession, the knowledge that has been acquired up to the present time relating to the bacillus lepræ, its relations to the pathological changes peculiar to leprosy, and its important bearings on the etiology of the disease. At the same time, an attempt is made to place clearly before the reader the amount and nature of the evidence which can be adduced to show that leprosy is contagious. In order to further render the work useful as an epitome of the most important and suggestive information which has been accumulated regarding this disease, the author has prepared a summary of its history and geographical distribution. . . . . . . Such an account has been given of the symptoms, pathology, and diagnosis of leprosy, as is likely to be useful to those members of the profession who wish for fuller information than can be found in ordinary text-books of medicine, but who have not the opportunity of studying the larger special works which the author has consulted in the preparation of this part of the book." The larger special works referred to are those by Danielssen and Bœck, by Hillis, by Leloir, by Munro, and by Sir James Simpson. The author makes a graceful allusion to Vandyke Carter's large work, and regrets that space has not allowed him to make fuller use of it. Vandyke Carter's persistent and continuous and often thankless labours in the study of leprosy can never be forgotten. A bibliography of the more important contributions, especially those in the English language, making reference to the writings of Liveing, Hutchinson, Tilbury Fox and others, would, however, have been very acceptable.

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* *Leprosy.* By George Thin, M.D. London (Percival & Co.), 1891, pp. 280.

Chapter I. deals with the *History* of Leprosy, and bristles with controversial points, such as the identification of the disease with which Job was affected. Many are mere matters of surmise and speculation. Here especially bibliographical references would have been useful. With regard to the former existence of leprosy in Great Britain and the foundation of leper hospitals, we will only say that, whilst not disputing that the disease did exist amongst us, it is clear from many of the old records that all kinds of loathsome diseases were characterized as leprous, *e.g.* syphilis, itch, lupus, &c., and that most incorrect conclusions may readily be drawn. We do not accept Dr. Thin's conclusion, "that the disease was very prevalent in the twelfth, thirteenth and fourteenth centuries, both in England and Scotland, is shown by the number of leper-houses that existed, and by the ecclesiastical and other legal regulations that were promulgated in respect to them."

In Chapter II. the *Geography* is considered. We will refer to two points. The author mentions briefly the spread of leprosy in the Sandwich Islands, and states that Arning's investigations of the bones of people dying before 1848 confirm Hillebrand's well-known statements. Dr. Thin, however, does not adequately discuss the evidence recorded by American missionaries and others as to the pre-existence of widespread and grave disease either syphilitic or leprous. It has long appeared to us that Dr. Hillebrand's views should be accepted with due reserve. The other point is that under the heading Louisiana we find a paragraph dealing with leprosy in Minnesota.

This field of investigation, so important from the Norwegian emigration, is referred to again later on in the work. The American Dermatological Association collectively and through its members has accumulated much exact information about leprosy in the United and neighbouring States. A careful study of this chapter compels us to say that Dr. Thin has not dealt with the geographical distribution as thoroughly as he might have done: his chapter, indeed, is but a slight and imperfect sketch.

The *Symptomatology* is considered in Chapters III. and IV. Dr. Thin adheres to the old term *tubercular* leprosy in preference to *tuberculated*, *tuberous*, or *nodular*. This is, we think, to be regretted, especially in view of the possibility that tuberculosis may co-exist with leprosy. He carefully separates the primary eruption (the leprous exanthem of Erasmus Wilson) of nodular leprosy from the lepromata subsequently evolved; but he does not insist forcibly enough in our judgment on the characteristic early macules of nerve leprosy. No doubt lepromata are very rare on the scalp, but Crocker has observed one. We fail to find in this chapter any mention of amyloid degeneration in nodular leprosy, though noticed on p. 128, nor do we see any adequate discussion of the remarkable febrile attacks, their relation to the absorption of nodules and the evolution of new lepromata with lymphangitis (Neisser). Dr. Thin's remarks on pp. 85 and 87 hardly cover this ground. We should also like to see some further remarks on visceral implications; for example, a discussion of the bowel infiltration which sets up a disorder simulating dysentery. Some omissions that occur to us under nerve leprosy are the cracking of the heels, the tremor of the limbs (Carter and Hillis), the early numbness of the extremities associated with the loss of power, the distinction between the early and later bullæ, the distribution of the anæsthesia and its relation to the macular eruption. The occurrence of aborted or arrested and unilateral nerve leprosy is of very great importance from a diagnostic point of view especially, and we are disappointed in not finding more definite information.

The *Pathology* (Chap. V.) is carefully considered, and contains the result of the author's own observations. The subject is illustrated by autotype reproductions of four interesting micro-photographs of bacilli and cells made by Mr. Andrew Pringle. Dr. Thin points out some differences in the tubercle and leprosy bacilli brought out by these photographs. Baumgarten, if we remember aright, has formulated some distinctions, to which Dr. Thin does not allude. We would also point out Neisser's claims to be mentioned in any historical account of the discovery of the bacillus. Dr. Thin is not satisfied that the bacilli can live and multiply outside the cells. He has not found giant cells, though others have, *e.g.* Abraham. We miss any discussion of the histology of the exanthem of nodular leprosy, and of the macular eruption of nerve leprosy. With regard to the evolution of the disease in childhood, Dr. Thin might have collected many more examples.

Chapter VI., on the *Contagiousness of Leprosy*, is a good one, but the case presented by Dr. Thin might be strengthened, for example, by additional instances of the introduction and spread of leprosy in countries, districts, towns and villages, by a study of its geographical distribution in a country (Carter and Hansen), and by the proofs that no other method of propagation will explain the origin of numerous cases. Even in a country where leprosy is endemic, Hansen has shown how much may be done by careful investigation and analysis. With regard to *Heredity*, the author in Chapter VII. refuses to entertain the hypothesis, but, whilst agreeing with him that heredity will not account for the great bulk of the cases, we must observe that the possibility of heredo-contagion is not yet definitely settled. The author writes, "syphilis is a hereditary disease, and syphilitic children are born into the world already diseased, but children are not born leprous." In relation to these statements we may say that though syphilitic children are born into the world already diseased, they often do not present any signs of the affection till some time after birth, and as the incubation of leprosy may be protracted, it is quite possible that children born leprous may show no sign of leprosy for several years. Under *Etiology*, Dr. Thin rejects the "fish theory" with some contempt. We quite agree in believing that it cannot be sustained, but, in a work of this character, we think that it would have been well to summarize the contentions of so distinguished an observer as Mr. Hutchinson and disprove them authoritatively. He says that a glance at the distribution map, with which the book is supplied, will at once show that the disease occurs in countries far removed from the sea and large watercourses. No doubt it is occasionally the case, though we cannot ourselves gather all this information from the map. But leprosy certainly prevails in rather a striking way on seaboards and along watercourses, and we rather rely on this fact as an argument for the contagiousness of the disease, in that it is propagated along the pathways of human intercourse. The conditions under which leprosy is generally inoculable are happily suggested by the French expression "promiscuité sordide et misérable." The *inoculation experiments* dealt with in Chapter IX. are of great interest, and we note that Dr. Thin attaches great importance to Arning's inoculation of the criminal. In this connection we may remember that syphilis ceases to be inoculable at a certain stage of its evolution. In respect to the communication of leprosy by arm to arm vaccination, it cannot be denied that such a method of propagation is possible, and indeed, from what we know of epidemics of vaccino-syphilis, probable.

We find much to criticize in Chapter XI. on *Diagnosis*; indeed we regard it as the weakest part of the work. The expert has little difficulty in diagnosing the majority of well-marked cases, but there are atypical cases which greatly exercise our judgment. In dark-skinned races the difficulty must be still greater than with us in England. Watching the course of the malady will alone avail us in certain instances. We should have liked the author to discuss fully the diagnosis of a nerve leprosy case, especially one remaining unilateral for a considerable time, or unaccompanied by eruption, from peripheral neuritis from other causes, from the progressive muscular atrophies, from syringo-myelia, from sclerodactylitis and mutilating Raynaud's disease. Then, again, galloping and malignant syphilis with widespread mutilations, with high temperature or complicated by erythema multiforme, must present difficulties; or some cases of sarcomatosis or mycosis fungoides, or widespread lupus vulgaris with mutilations. It is well known that the thickening of the nerves cannot always be felt. Dr. Thin, several times in the book, refers to the loss of the eyebrows as a pathognomonic symptom, but surely this loss only arises from the implication of these hairy regions by lepromata.

The work concludes with chapters on *Treatment*, the *Possibility of Recovery from Leprosy*, *Isolation*, *Prophylaxis*, .and an appendix. The work is illustrated by two excellent autotypes of lepers, and by four photographs of leprosy and tubercle bacilli.

We have given these remarks as they occurred to us in reading this interesting book, but we do not make the criticisms in any carping spirit, but rather in the hope that we may induce the author in a subsequent edition to perfect a work which is ably and clearly written, and which will prove, we have no doubt, of real value to many.

T. COLCOTT FOX.

NEALE'S MEDICAL DIGEST.*

THOSE who are acquainted with the previous editions of this work will welcome its third edition. It is a work of much value to the busy practitioner, enabling him to get the gist of thirteen English Medical Journals during the past fifty years.

The title "English Medical Digest" would perhaps be more accurate than its present one, since no direct reference is made to the original foreign sources of many new discoveries and medical doctrines.

There is a good digest of modern British Dermatology up to the end of the year 1890. The book contains 16,000 to 17,000 references. If the practitioner has no time to hunt up the references, he will gain many suggestions from merely reading the sections under the subject of inquiry. As a work of great labour, the appreciation and gratitude of the profession are due to Dr. Neale, and there is no better way of expressing these sentiments than that of using his book for the end for which it was written.

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* *The Medical Digest.* By Richard Neale. London: Ledger, Smith & Co., St. Mary Axe, 1891.

THERAPEUTIC NOTE.

NEW OINTMENT BASES.

Pasta Cerata, a new ointment base for the treatment of wounds.

Under the name of Pasta Cerata, or Wachspaste, Dr. Carl L. Schleich, of Berlin (*Deutsche Medizin. Zeit.*, 7th December, 1891), introduces a preparation the "final components" of which are yellow bees'-wax and water. It is creamy, salve-like, and smells of honey, is of a bright yellow colour and even consistence. It is antiseptic and, containing no fat, does not turn rancid. On drying, the pure wax alone is left. Under its influence wounds granulate freely, and quickly cover with epithelium; the surrounding skin, moreover, is never irritated. These attributes, together with the simplicity and convenience of application, render it of the greatest possible service in out-patient practice, where it replaces with advantage many of the usual cumbersome forms of dressing. The drying of the thin layer over the wound, and the mingling of the wax with the secretions and proliferating epithelium, bring about the formation of an excellent dry antiseptic scab; but its utility in this direction is increased by the facility with which it mixes with the iodoform, dermatol, sulphur, sublimate and various salts, the drugs being brought into close connection with the open or diseased surface, and the whole, then drying, form what is practically a medicated plaster. In treating lesions on the uncovered parts of the body, it is sufficient simply to rub a layer slightly over their surface, and if there be any fear of it being rubbed away by the clothing, the application of a simple bandage is sufficient to give the requisite protection. A further advantage is found in its capability of being readily washed off, and in the fact that it does not grease the hands or clothes. The layer of paste should be quite thin, in order to prevent any maceration by retained secretions, but the strength of the layer may be increased and its surface improved by covering it with a piece of gauze or a thin layer of wadding, which dispenses with the necessity of any further bandages.

The simple paste forms an excellent dressing for burns of the first and second degree, for young scars and recent wounds, dry eczemas, ulcers of the leg, and for promoting the healing of healthy granulations.

Iodoform wax paste combines the advantages of the paste itself with those of iodoform, and is of special service in the various forms of ulcers and sores, whether due to burns or cautery, or of syphilitic or tubercular origin. In tubercular cavities it acts as a tamponade with most favourable effects on the healing process, and fissures and excoriations heal rapidly under its influence. The scab which it forms must be removed every four or five days and a fresh dressing substituted. Pastes mixed with ichthyol, sublimate, dermatol, and sulphur are employed wherever these medicaments are indicated.

All the preparations are obtainable from Mr. Radlauer, Friedrichstrasse, Berlin.

Oesypus.

This wool fat, the raw product from which lanolin is prepared, is highly spoken of by Drs. Ihle and Taenzer (*Monatshefte f. prakt. Derm.*, xiii. *Bd.* xiii, No. 10, 1891) as an excellent ointment basis. It contains many substances, especially ethereal oils, which are removed in the preparation of lanolin, and which seem to lend it some healing properties of its own. Anhydrous lanolin irritates the skin, probably by extracting water from it, whilst oesypus, on the contrary, relieves itching and "fattens" the skin without causing any irritating bye-effects. Its smell is disagreeable, but as it costs only 1 mark per kilo (not quite 5¼d. per pound) it constitutes a cheap salve constituent for poor-class patients. Taenzer prefers to mix it with equal parts of olive oil, and when thickened with powder (zinc oxide, starch, kieselgur, magnesia carbonate, etc.) this mixture makes an excellent paste, which may be used with good effect in *burns* and all other kinds of *oozing eruptions* (eczemas, burns, impetigo). In *eczema impetiginosum* it is almost a specific. Mixed with salicylic acid, orcin, resorcin, or bismuth subnitrate, *e.g.*:

(℞	Bismuth subnit. . . .	5.0
	Zinci oxidi	20.0
	Oesypi and Ol. Oliv. āā qs. ut ft. pasta.)	

it forms a good remedy for *sycosis coccogenes*, especially when combined with epilation of the surrounding hairs, and abstention from washing and shaving.

In *eczema of the face in children*, a simple mixture such as

℞	Oesypi, Ol. Oliv. . . .	āā 10
	Amyli	20–25

is sufficient when the surface is oozing, but for the dry form grey zinc dust may be added with good effect on the obstinate papular infiltration. One layer must be simply smeared over the other without any attempt to cleanse the skin.

In *burns and scalds* the effect is both soothing and healing, especially if it be applied at once.

Ihle finds undiluted oesypus of great benefit in burns, but more particularly useful in the *itching eczema of children*. If simply smeared on, it softens the skin and scabs, and as it cannot be wholly removed by the little patients by means of rubbing and scratching, bandaging is rendered superfluous. A similar treatment also suffices in many cases of *impetigo contagiosa*. When the surface is once cleansed, it is better to continue the treatment with pastes. In some bad cases of *prurigo* (Hebra) and many cases of *pruritus* the relief obtained has been prompt, and several permanent cures of the former notoriously obstinate affection have resulted. As an anti-pruritic in *pruriginous eczema*, its effect is, like that of most other remedies, but transitory, but in *seborrhœic eczemas* it is of more permanent service, and when scented, by the addition of a little balsam of Peru, oil of bergamot or rose, it makes an efficient pomade for seborrhœic scalps.

A further advantage claimed by Ihle is that it sometimes has agreed perfectly with a skin which would tolerate no other form of fat or lubricant, lanolin included; and the pastes made with oesypus and olive oil in equal parts, thickened with zinc and starch, are well tolerated by almost every patient, however irritable the skin may be to other applications.

Thilanin (brown sulphurated lanolin).

Dr. Edmund Saalfeld, of Berlin (*Therapeutische Monatshefte*, November, 1891), finds in this compound of lanolin and sulphur a substitute for the oleum lini sulfuratum which was once so extensively used in the treatment of skin diseases. In that preparation a certain portion of sulphur was dissolved in the oil, but the odour and other properties of the mixture were so objectionable that it has long dropped out of use. Mr. Seibel has succeeded in incorporating 3 per cent. of sulphur with lanolin to form a yellowish-brown compound of the same consistency as lanolin, and presenting the mixed odours of its two components.

The original intention was to replace by this preparation such "indifferent" salves (!) as Hebra's diachylon ointment and boracic-vaselin or lanolin, and it has proved itself to be quite as unirritating, whilst at the same time more energetic in its action. The following instances of its capabilities are given: acute eczema of the face, three cases of eczema of the fingers, healing in three days; universal, very acute eczema, completely failed; thickly infiltrated eczema of the face in an old woman, improvement only; a subacute dry eczema of the face, five cases of chronic desquamating eczema of the lower leg, a relapsing papular vesicular eczema of the hand, and two cases of eczema of the penis and scrotum, with rhagades, healing in a very short time.

Similar good results were obtained from the use of thilanin in the wide-spread papulo-vesicular eczema of children, but the thick consistency of the undiluted base rendered it inapplicable to hairy regions.

Some of the cases quoted by Saalfeld are not very convincing as to the superiority of this over other forms of ointment—plain lanolin, for example. In this apparently preliminary notice he, however, only claims for it that in some cases it heals quickly, that it relieves itching, and is free from all irritating properties. In these qualities it differs essentially from any form of ointment which contains simply 3 per cent. of uncombined sulphur. Whether the sulphur is combined with the cholesterin or the fatty acids of the lanolin has not yet been decided.

Sulpholeate of Sodium.

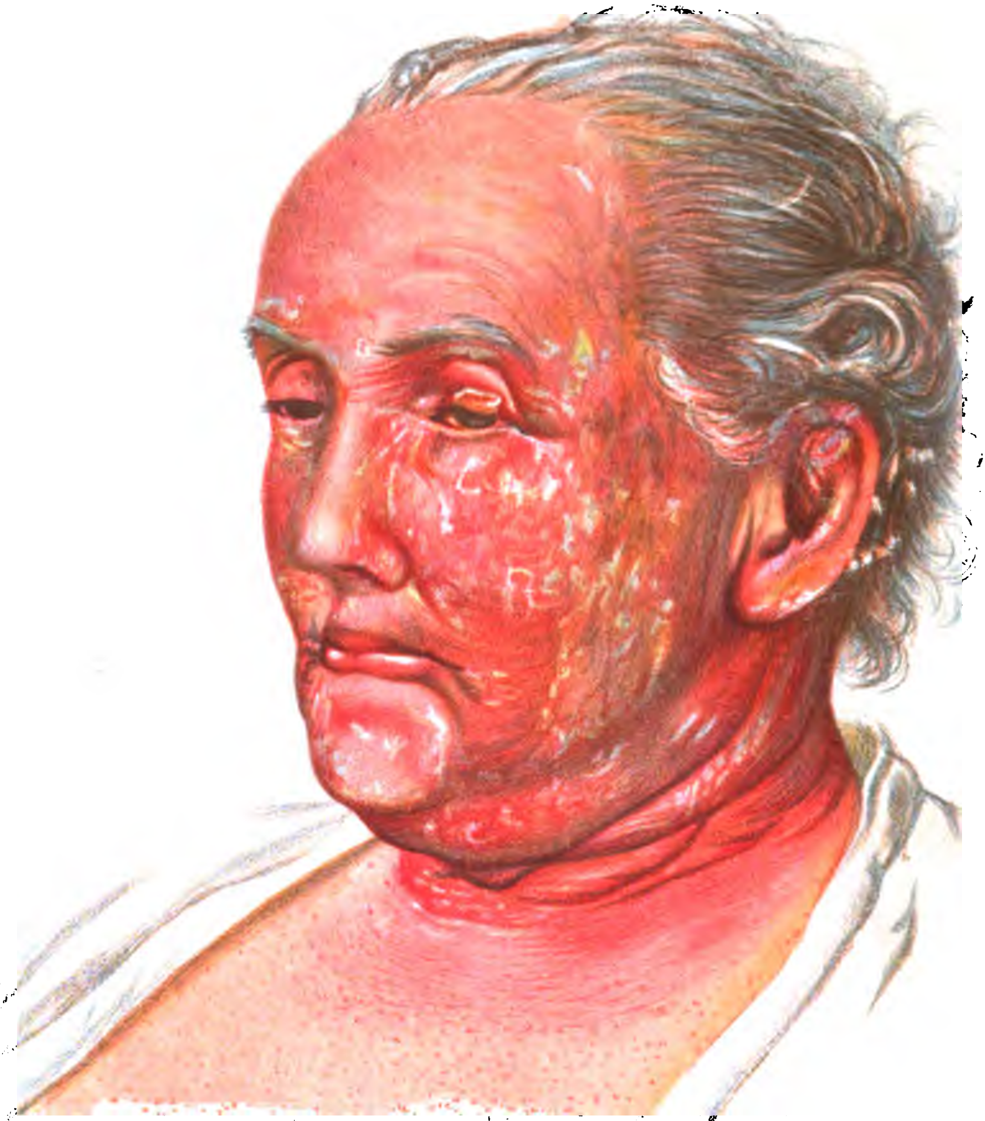
In speaking of ointment bases, it is perhaps not too late to call attention again to the article, "The Dermatological Value of Sulpholeate of Sodium," by Dr. G. H. Fox, of New York, which was published in the *Journ. Cut. and Gen.-Urin. Dis.*, May, 1890. Dr. Fox had made a previous communication to the N. Y. Dermatological Society on the same subject some years before. This substance is formed by adding sulphuric acid slowly to any fixed oil, care being taken to keep the mixture cool in order to prevent combustion. If it be frequently stirred for twenty-four hours it becomes perfectly homogeneous and miscible with water. If to this viscid mass an alkaline base, such as carbonate of soda in solution, the most suitable form, be added slowly, with constant stirring, sulpholeate of sodium is formed. This mixture is allowed to stand in a funnel for twenty-four hours with stop-cock attached, during which time two layers are gradually formed, the upper one being sulpholeate of sodium, which is first held in suspension like cream in milk. This substance has an acrid bitter taste and a nearly neutra reaction. Applied to the healthy skin it has a bland, oily, or slightly sticky feeling, It contains about thirty per cent. of water, which can be driven off by evaporation, and the mass then resembles vaseline in appearance and consistency, and makes an excellent basis for ointments.

Its value depends on the following properties: 1, its miscibility with water, which allows it to penetrate deeply into the skin, and to be readily washed off when desired; 2, its rapid absorption by the skin; and 3, its remarkably solvent power, which allows of the application in solution of sulphur, chrysarobin and other drugs, which have hitherto been applied in a gritty condition.

There are three forms in which sulpholeate of sodium may be advantageously used in the local treatment of skin disease: 1, as an unguent, the water having been evaporated; 2, as a liniment, in its hydrated condition, in which it has a very emollient action on the skin; 3, as a plaster, made by mixing it with gelatine "in proper proportions" and spreading out the compound thinly on muslin. When moistened this plaster adheres to the skin, and is superior in many respects to any other which Dr. Fox has used. Theoretically the sulpholeate of sodium is a perfectly neutral substance, but practically it is apt to contain a small amount of free acid, if carelessly prepared, which may render it irritable to an inflamed skin.

The commercial product which is known in the dye-works as "red-oil," and made by the action of sulphuric acid on castor-oil in the manner above described, has certainly a very emollient effect on the hands of the workmen who use it. I found, however, in a series of trials which I made with it eight years ago, as a vehicle for local applications, that it was exceedingly irritating to most skins suffering from any, even slightly or chronically, inflamed lesions, such as patches of chronic eczema or psoriasis. The composition of the whole mixture was, I found, very complicated, and evidently, to judge from the conflicting analyses, somewhat obscure. As neither washing nor neutralization would free the red-oil from its irritating properties, I gave up using it further. It is probably owing to the presence of traces of these complex organic substances in the sulpholeate, rather than to a simple surplus of acid, that the irritating effects which Dr. Fox has noticed are due.

H. G. B.



D^r Savill's case of
EPIDEMIC DERMATITIS.

West, Newman chromo.

DESCRIPTION OF PLATE.

The coloured plate is from a sketch made from a moist type of case (F. XXI.), when the eruption on the face was at its height, and was spreading to the chest. It is intended to show the induration of the skin of the neck and around the eyelids, which was so great that the latter could not be opened. The face is covered with flakes of epidermis and dried secretion. The rash in this case started as discrete papules such as are seen on the chest. The patient had severe mucopurulent conjunctivitis. The eruption had started on the forehead, and the whole body was eventually involved. The temperature was usually subnormal, but once reached 100°. The anorexia and asthenia were marked, there was some albuminuria, and the rash was followed by general wasting, pigmentation and loss of hair. The patient had formerly had eczema and, six years before, an attack of erysipelas followed by abscesses and loss of hair. She ultimately made a fairly good recovery.

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ON AN EPIDEMIC SKIN DISEASE,

SOMEWHAT RESEMBLING ECZEMA AND PITYRIASIS RUBRA, WHICH OCCURRED CHIEFLY IN THE WESTERN DISTRICT OF LONDON DURING THE SUMMER AND AUTUMN OF 1891.

BY THOMAS D. SAVILL, M.D. LOND., D.P.H. CAMB.,
Medical Superintendent of the Paddington Infirmary, London.

ALL the cases of this disease which came to my knowledge occurred in the Western division of the Metropolis, excepting those in the Lambeth Infirmary, which is situated in the S.E. district. The following remarks are based on the 165 cases under my own care. On the whole, these seem to have been the most severe, and attended by the highest death-rate.*

Out of an average of 400 or 500 patients in the Infirmary and Sick-Wards of the workhouse, it is rarely that we are quite without some half-a-dozen cases of more or less localized eczema. Not unfrequently cases of acute general eczema come in; and occasionally a case of pityriasis rubra is admitted. Such cases are specially liable to occur in the autumn, so far as my memory serves me; but never before have we had a collection of cases of skin disease at al approaching the present one. Out of 846 (376 m. and 470 f.) patients who passed under treatment in the Infirmary and workhouse Sick-Wards between July 1st and October 31st, 1891, 163

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* Particulars of the cases at Paddington and elsewhere will appear in our next issue.—ED.

(89 m. and 74 f.), or 19·2 per cent. have been attacked with the malady I am about to describe. At first I took the disease for acute general eczema; but as week by week fresh cases occurred I was struck by the differences, which will be mentioned hereafter. Some had the disease very trivially, but most had quite half the surface of their bodies affected, and many were entirely covered with it. In a few it scarcely interfered with their usual health; but in most, the irritation of the skin and the concurrent constitutional disturbance rendered their condition a most unhappy one.

It may be mentioned that the disease broke out not only in many different wards at the same time, but also in two buildings which are totally distinct.* The cases also were pretty evenly distributed, excepting in the nursery and children's ward, which contained very few cases, and those chiefly among the adult patients who happened to be there at the time. In the Infirmary 6 cases broke out in I ward (containing chiefly children), 11 in II ward, 14 in III ward, 2 in IV ward, all female wards; 17 in V ward, 18 in VI ward, 17 in VII ward, and 4 in VIII ward, all male wards; IV and VIII wards were closed soon after the epidemic started.

Amongst the paid staff of both places there was remarkable immunity, the only persons attacked being myself and a housemaid. These are not included in the tabular statements. 151 of the 163 cases were patients under treatment for some other disease at the time the eruption attacked them. One man (M. LVI.) was brought from the outside with the skin affection, at a date when many other patients were already affected. Only five male and six female cases occurred amongst the inmates of the workhouse proper.

First of all, I will give an account of a case which may be regarded as fairly typical; and then conclude with some general remarks, founded on the analysis of the cases.

Some of the earlier cases occurred in No. VI ward of the Infirmary, and the fourth to be attacked in this ward was Joseph D——, a shoemaker, æt. 63. It so happened that the patient in the next bed (M. VI.)* had been affected nine days previously. It also happened that the next victim was in an adjacent bed on the other side of him, and the fourth in the next bed, the number of their beds in order being 12, 11, 10, 13. It may be mentioned that only thirteen out of the thirty-two patients in this ward escaped the disease.

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* The Paddington Infirmary, like the Marylebone Infirmary, where a similar outbreak occurred at the same time, is a modern building replete with every modern sanitary improvement. The old Sick-Wards of the workhouse are a part of the workhouse, and governed by the master, quite distinct from the Infirmary. The staffs of the two places are totally separate, and the buildings are separate institutions. The only points they have in common are the medical staff, who have charge of both institutions, and the Board of Guardians, which governs both.

D—— is a little man, measuring only four feet five inches high, and weighing only six stone, the subject of spinal curvature, though in general he enjoys good health. There is no history of rheumatism, gout, phthisis, or other disease in his family; but he himself had suffered, he told us, from occasional slight attacks of "rheumatism" for forty years, and it was for a subacute attack of this disease he was admitted. He had never had any kind of skin disease in his life before, and his skin had always been, to use his own expression, "particularly fair and pale, though inclined to be dry."

He was admitted on March 13th, 1891, with pain, swelling, and other symptoms pointing to rheumatic inflammation of some of the joints and fasciæ of the right arm and leg. Without entering into detail, it may be said that it was evidently rheumatism and not gout from which he suffered; and the inference was that the attacks from which he had suffered on former occasions, which he said were of exactly a similar kind, were also rheumatism. Guaiacum was prescribed for him, blisters applied to his shoulder, and he gradually improved. By the end of June he was quite well, getting up and about every day. His discharge from the infirmary was in contemplation, when (on July 4th) he complained to the ward-sister of considerable "irritation" of his skin, especially on the arm. There was nothing to be seen at that time, but the next day a fine papular rash was observed on the front of the right forearm and upper arm. The rash came out as a thickly set papular one with some general congestion and thickening of the skin. By the sixth day (July 10th) the eruption had spread to the face and head. Next day fresh independent patches of the disease had occurred on the palms, the left elbow back and front, and also on front of the legs, a point still more distant from the place first attacked; meantime, the parts originally attacked underwent improvement. It was never vesicular, but the epidermis was soon shed as small dry scales, or in larger flakes from the hands and feet.

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* These are the reference numbers to the cases, notes of which are open to inspection.

The eruption took a turn for the better about the tenth day, and it was thought to be getting well; but about the fourteenth day there was a severe general exacerbation. The eruption was now symmetrical and noted (July 17th) as "very burning and irritating, and preventing sleep. Back covered almost uniformly with papular eruption which is going on to furfuraceous desquamation. Arms and legs covered with spots of same, also hands up to fingers' ends, back and front. Face and most of scalp (both bald and hairy parts) uniformly reddened and thickened (not papular) and desquamating in small scales. Ears worst part of all, and weeping."

The only place where vesicles were observed in this case was behind the ears; elsewhere, the vesicular stage, if it existed at all, escaped notice.

By the twenty-first day nearly the whole of the body and limbs were affected, and presented the appearance of a crimson surface formed of inflamed and swollen skin, gradually being denuded of its epidermis, which separated in scales and flakes of various sizes, and presented here and there, especially in the flexures of the joints, cracks through which a scanty moisture exuded; but otherwise, and for the most part, the inflamed skin was dry, and burning hot.

The conjunctivæ were inflamed, and discharged a sero-purulent fluid; and a sickening odour was given off from the skin.

Matters remained in this pitiable state for several days. The skin was raw and acutely tender to the touch, so that the patient dare not relieve the intolerable itching and burning from which he suffered, and the mere contact of the bedclothes was painful. About the twenty-fifth day of the eruption, the swelling began to abate, but the redness and desquamation still continued for some weeks longer. On August 12th the following note was made:—"Eyelids much thickened—eyes red and watering. Whole surface of body reddened, and scaling in moderate-sized scales." Mr. Jonathan Hutchinson saw the patient about this time, in the sixth week of the disease, and expressed the opinion that it would be "difficult to distinguish the case at that stage from one of pityriasis rubra; the universal desquamative dermatitis was exactly such as occurred in that disease."

About the seventh week the new skin gradually assumed a yellowish-brown colour, and an appearance of being stretched and dry, like parchment. In the face this stretching gave rise to eversion of the eyelids. This stage lasted a considerable time, and it was not until the eighth or ninth week that the skin began to revert to its normal condition, though still somewhat scurfy.

During the whole time the patient suffered from extreme weakness and prostration; at one time he experienced a feeling as of falling through the bed. The tongue, at first coated, afterwards became raw and sore, like the skin. The loss of appetite was very marked, almost amounting to a loathing of food. He sometimes felt sick, though he never vomited, and he had no diarrhœa. The weakness lasted long (several weeks) after the dermal inflammation had abated, but return of the appetite was the first sign of improvement, and it became as ravenous as a patient recovering from typhoid fever. The temperature taken regularly throughout was very little if at all elevated, going up to 99° on some evenings. The urine, which was normal on admission, presented a trace of albumen on several occasions when the disease was at its height. It first appeared in the fourth week of the disease (July 28th) and lasted continuously for six or seven weeks after recovery, to October 6th, when it disappeared. Concurrently with this there was anasarca of the legs.

The primary attack of the disease may be said to have lasted about eight weeks altogether. The eruption was followed on two occasions by trivial localized relapses, viz., two weeks later (Sept. 17th) on the arms and chest, and eight weeks later (October 23rd) on the legs. Three weeks after the rash had faded he had a slight attack of pleurisy.

The marked abatement of the eruption during the second week in this case is a feature worthy of attention. A similar abatement, followed by an exacerbation of redoubled violence has occurred at an early stage in many of the cases.

In this patient the eruption was followed by a chocolate-coloured pigmentation uniformly spread over the whole body.* The nails were shed, and the hair of the scalp came out, so that he became completely bald.

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* The patient was shown before the Medical Society on November 30th, and still presented the pigmentation.

Treatment was unavailing in this case. Warm soda baths every other day relieved the burning sensation when the eruption was at its height, and soothing lotions seemed to allay the inflammation to some extent.

DEFINITION.

This case may be regarded as a fairly typical one. All the 163 cases, though differing considerably in detail, bear a strong general resemblance to each other; and whatever may be the explanation of the epidemic, it will, I doubt not, be conceded, by the many gentlemen who have seen the cases, that they are all examples of one disease, one pathological entity, though they presented differences amongst themselves both of kind and severity, just as do cases of localized eczema, varicella, and measles.

As a descriptive definition of the disease the following seems to include all the cases I have seen:—A contagious malady in which the main lesion is a dermatitis, sometimes attended by the formation of vesicles, always resulting in desquamation of the cuticle; usually accompanied by a certain amount of constitutional disturbance, and running a more or less definite course of seven or eight weeks.

THE SKIN LESION.

For purposes of description, the eruption is best divided into three stages:—

1. *Papulo-erythematous stage* (lasting three to eight days).

(*a*) The eruption frequently commenced as a discrete papular rash. Nearly all the serious cases began as an erythemato-papular rash, by which I mean a congested surface on which numerous small shotty papular elevations could be seen or, even better, felt. There was generally considerable induration and thickening, and in parts where the cellular tissue was loose, œdema. It faded away towards the margin, and terminated sometimes with and sometimes without an abrupt raised edge, beyond which a few scattered papules could be seen.

(*b*) Another mode of commencement (14 cases out of 163, 8 males, and 6 females) was with slightly raised blotches of congestion, having an abrupt margin and circular outline (like Erythema nodosum, or E. papulatum).

(c) Six of the cases commenced with one or more small flat papules which, as each enlarged, presented an appearance much resembling ringworm of the body; *i.e.*, a circular spreading ring of congestion enclosing a depressed area covered by minute vesicles (*vide* photo. of O'G——). The importance of these cases will be further alluded to.

About the second or third day, in the moist type of cases vesicles developed, though they could rarely be seen intact, for they were so easily broken; if they remained whole, their contents became cloudy as usual. In one case, where the vesicles were of unusual size, I was fortunate enough to procure some of the contents of an unbroken one for bacteriological research.

2. *Stage of exudation or desquamation* (lasting three to eight weeks). Whether vesicles were formed or not, and whether the rash began as papules or maculæ, they soon became confluent, and then presented the appearance of a crimson surface of thickened and indurated skin, continually shedding its cuticle, in scales or flakes of various size, mingled sometimes with dried exudation (photo. of J. C——'s arm).

From the presence or absence of exudation these cases may be grouped into two varieties. In one, the "moist" type, the papules were followed by vesicles and copious exudation; while in the other, the "dry" type, there was no exudative stage, or, if so, it was very transient, the skin remaining to all appearances dry throughout the course of the disease. The former of these, the "moist" type, bore a strong superficial resemblance to acute eczema, the latter to pityriasis rubra. About two-thirds of the cases were classed as the "moist" or Eczematous type. There were very few pronounced cases which did not at some period of their history exhibit slight moisture either in the flexures of the joints, or behind the ears.

The skin remained in this crimson inflamed condition for several days or several weeks, continually shedding its epidermis, not once or twice only, but many times. The size of these flakes varied considerably, from impalpable powder to the entire cast of a hand. There was not a single case in which this exfoliation was absent.

3. *Stage of Subsidence.*—By degrees the inflammation subsided, leaving the skin still thickened, indurated, but with a polished, brown appearance. In many cases the new skin presented a raw,

parchment-like appearance, smooth and shiny, sometimes with cracks here and there, not unlike Ichthyosis vera. In the face this dragging of the skin resulted in an eversion of the eyelids.

In many of the cases the skin assumed a purpuric condition beneath the other elements of the eruption. This occurred, for the most part, in the later stage of the disease, and among the aged. I have frequently noticed, independently of this epidemic, that eruptions in old people are very prone to become complicated in this way, probably owing to the usually diseased state of their vessels. In some the eruption had this character throughout its course.

Parts first attacked.—The rash commenced always as a small patch of varying size, which developed, spread, and sometimes faded independently of others elsewhere. The following table, A, shows the relative frequency with which the various parts of the body were first attacked:—

TABLE A.—SHOWING THE FREQUENCY WITH WHICH VARIOUS PARTS OF THE BODY WERE FIRST AFFECTED.

	Male Cases.	Female Cases.	Total Cases.	Percentage
Arms and Forearms	25	12	37	22·6
Face and Scalp	15	20	35	21·4
Feet and Legs (below knee)	11	13	24	14·7
Hands	15	7	22	13·4
Back	8	5	13	7·9
Neck	3	9	12	7·3
Chest or Abdomen	7	5	12	7·3
Ears	3	2	5	3·0
Thighs and groins	2	2	4	2·4

Mode of Spread and Distribution.—Inasmuch as all parts of the body were not simultaneously attacked, it follows that different places often presented different stages of the eruption. The rash seemed prone to start and predominate in the folds of the skin, such as the flexures of joints, beneath the mammæ, behind the ears, etc.

In exactly half of the cases the entire body was covered with the eruption sooner or later. But in other cases the disease was limited to patches of varying size; and in such, the extreme thickening of the affected skin was more obvious by comparison with the healthy intervening tracts. In some of the younger cases the rash was extremely trivial, and might have come under the heading Eczema. It sometimes required great care to exclude all such sources of error, and if the disease I am now describing has existed before, it is more than probable that slighter instances of it have been classed as Eczema, and severer cases as Pityriasis rubra.

I was much concerned to discover whether the march of the skin affection took place by spreading from contiguous parts, or whether it ever appeared simultaneously in two distant and wholly unconnected places. In this way I hoped to decide the question whether the disease was due to a purely local influence creeping along the skin, and producing secondary general effects, or, on the other hand, to some general poison in the blood, or perhaps, to some general nervous influence which, selecting the tegumentary tissues for its evil effect, acted on one or more distant parts of the skin at the same moment.

Certainly, in the majority of cases, the spread took place from neighbouring parts, or such as might have been brought into contact by the movements of the patient or the bedclothes. Not a single clear illustration of the opposite method came under my notice which would stand the test of minute and critical investigation. In some instances, what appeared to be a simultaneous involvement of two distant and distinct parts was not really simultaneous. In others, the parts affected might easily have been in contact with each other, like the inner surfaces of the two thighs, or with the same part of the bedclothes, like the hands and face. And others, again, were shown, on investigation, to have been previously the seat of the rash, which had subsided only for a time. Such was the fallacy into which I was nearly led in the case of the man, M. LXXXIX. The rash came out on Oct. 10th, and apparently remained localized to his arm and back. Thirty-six days later a very sudden and severe outbreak occurred, all at once, in the course of the night of Nov. 14th, over the whole of his body and limbs, many fresh parts, distant from each other, being involved at the same moment. But I found, on inquiry, that all these parts had, at one time or another, been previously involved, and, therefore, they had now only taken on fresh action all together.

Nothing was commoner than for the eruption to begin slightly, and, in the course of a few days, to fade away as though the attack were going to abort; then, to take on fresh activity and progress with redoubled vigour. It was so in the case I first narrated, and in many others.

We have seen that the rash started most frequently on the upper extremities and face; and, in a large majority, it spread from above downwards, the feet being involved last.

A definite tendency to symmetry was to be observed in a great many of the cases—at any rate, after the first, or "false start," was over. At the very beginning this symmetry of distribution by no means always existed—thus, M. XXX. started from several isolated and asymmetrical centres; but, at a later period, a symmetrical involvement of parts was often very marked.

The other epidermal structures—hair and nails—shared in the disease in its later stages. In the alopecia, no part of the body was spared; eyebrows, eyelids, pubic hair, all came out. Nor did it necessarily follow that these parts had previously shown evidences of the eruption, for in some cases, *e.g.*, F. XLVIII., there was no rash seen on the head (though carefully looked for), yet her hair afterwards came out; just as in another case the palms of the hands and fingers escaped all evidences of the rash, but subsequently the epidermis was shed in large flakes.

CONSTITUTIONAL AND SUBJECTIVE SYMPTOMS.

Constitutional symptoms of some kind were present in nearly every case, though they were very slight in some. They seemed, as a rule, to bear some general relation to the extent and severity of the skin lesion, but not always. Two symptoms, anorexia and prostration, were by far the most constant. Weakness or a feeling of exhaustion and loss of appetite in a few cases (*see* also p. 58) preceded the rash by a few days, and in nearly all the weakness lasted for a considerable time afterwards. In the severer cases it was very pronounced, and tended more than anything else to bring about a fatal issue.

In several cases the rash was of moderate dimensions, but the asthenia was very great, and lasted for weeks after the other had gone. In the marked cases great thirst was also a notable feature, It is necessary to repeat that the cases differed widely in point of severity; certainly in the slighter cases the constitutional symptoms were of a trivial order, and might by a casual observer have been overlooked; but one or more of the three symptoms—anorexia, asthenia, or thirst—were always present. Desquamation of the epidermis occurring with one of these three symptoms, in the absence of pyrexia, and the possibility of scarlatina being excluded, would almost suffice to identify the disease.

The temperature during the earlier period of the eruption was generally normal, or, in many of the older patients, subnormal. In the later stages, when the skin became extensively or severely inflamed it went up to 99° or sometimes 100° in the evening, and generally down again to normal in the morning. A higher temperature than this usually indicated the formation of boils or some other local inflammation.

The most typical chart is a long course of intermitting apyrexia, by which is meant about 97° or 98° in the morning and about normal in the evening; with here and there a rise to 100° or 102°, lasting a day or two. The explanation of these occasional rises of temperature was not always apparent. In many cases they were due to boils or other local inflammations, but in some cases no such foci could be detected. The pyrexia might amount to 102° and last for two or three days. The rise and fall were nearly always sudden, and much resembled the rise and fall in a surgical case when the outlet for pus is suddenly stopped and afterwards made free. In all the fatal cases but one the temperature gradually fell below normal and remained so for several days before the end. This might be accounted for by the profound collapse. In one case (M. XIV.) the temperature rose gradually during the last seven days of life to 101°.

Subjective symptoms.—These consisted of severe itching, irritation, and a feeling of burning pain. In the worst cases the condition of the patient was truly pitiable; after loss of the epidermis the skin was very sore and tender to the touch, so that the weight of the bedclothes could scarcely be borne. The sour odour exhaled from the severe cases (quite half the number) attracted everyone's notice.

Sleeplessness was common. In most cases this was quite accounted for by the intense irritation of the skin, which was always worse at night; but in some (*e.g.* M. XXXI. æt. 40) it was evidently due to an intense irritability of the nervous system.

COURSE, AND MODE OF FATAL TERMINATION.

Course.—The disease began and ended gradually, so that it was sometimes a little difficult to fix an exact date for either. This was more true of the ending than of the commencement. Very often the eruption was preceded for a few days by a sensation of irritation or tingling of the skin, unaccompanied by any visible signs. Sometimes it was preceded for a few days by a feeling of malaise and loss of appetite (*e.g.*, cases M. XXVII. and M. XXXVIII. (*see* also p. 58)).

The termination in all cases was by lysis. Taking the end to occur when the primary or principal attack was over, the average duration amongst the males was 7·24 weeks, females 7·32 weeks, and in all cases 7·27 weeks.

Recrudescence, or relapse, was a common feature in the epidemic; it occurred in fifty-two of the patients; twenty-eight had one relapse, twelve had two relapses, and ten had three or more. One patient (M. XXII.) had nine relapses, and one (M. LXIV.) had ten. It is interesting to note that both of these patients continued to relapse until the termination of the epidemic; suggesting the idea that the termination of the disease in them depended on a disappearance of the poison from the air around, rather than the exhaustion of a pabulum within them.

Mode of termination.—Several of the cases got quite rid of the eruption, but did not recover from the weakness, of which they finally died. Among the constitutional symptoms were two, referable to the *nervous system*, which are worthy of special mention as occurring only in the severer cases; viz., twitching of the muscles, or "subsultus tendinum," as it is sometimes called, and shallow, sighing respiration without other signs of pulmonary mischief. These symptoms, either separately or together, were of the gravest import: all the eighteen fatal cases presented one or other. They died in much the same manner. The weakness became profound, and was succeeded by drowsiness; the patient, however, generally retained consciousness till within twenty-four or forty-eight hours of death. Gradually the drowsiness deepened into coma, which, without the supervention of convulsions (excepting one case, M. LX.), terminated the scene. The chief feature of the mental condition towards the end of life was drowsiness ; only a few had nocturnal delirium. The patient could be roused to answer questions, but dropped off to sleep immediately.

Symptoms referable to other Organs.

Alimentary Tract.—After the eruption and prostration, the total loss of appetite was undoubtedly the most pronounced symptom in nearly all. The positive loathing of food which often existed concurrently with the rash, was only equalled by the ravenous appetite which followed with convalescence.

The tongue at first was covered with a thick fur, but generally this coat came off and left a raw red surface during the remaining weeks of the disease, the patients bitterly complaining of its soreness. In severe cases it became dry, the saliva thick and viscid, and sordes collected round the teeth. The appearance of the tongue was quite analogous to the skin changes, and the suggestion was irresistible, in some cases at least, that the epithelium of the alimentary canal shared in the lesion of the skin ;—in other words, the poison exhibited a proclivity for epiblastic tissues.

Diarrhœa occurred at some time in the course of the disease in ten cases, *vomiting* in eight, and eleven had both vomiting and diarrhœa, out of eighty cases in which sufficently detailed notes were made on this point. Diarrhœa or vomiting occurred chiefly in connection with those cases that appeared during the later months of the epidemic. It is interesting to note the incidence of these symptoms on different sexes. Out of 56 males, 7 had vomiting, 7 had diarrhœa, and 7 had both. But, out of 24 females, only 1 had vomiting, 3 had diarrhœa, and 4 had both.

These symptoms did not occur at any constant period in the course of the disease. In some (*e.g.*, M. XXXVI., M. LXXIX.), one or other, or both of these symptoms came on several days before the appearance of the eruption ; in others they happened when the skin lesion was at its height ; while in many they occurred during convalescence, when the skin was clearing, or even when it had quite recovered. It was the uncontrollable vomiting and diarrhœa which indirectly brought about the fatal termination in case M. XXV. In this and some other instances there was incontinence of both urine and fæces, an evidence, probably, of the prostrate condition of the patients.

The urine was examined regularly in seventy-two cases, and albumen was found in thirty-six, or exactly half. The albuminuria only appeared when a considerable area of skin was involved, and either when the eruption was at its height, or during the later stage of the disease. This is not a surprising circumstance when one considers the large amount of additional work thrown on the kidneys. The albuminuria was probably the result of congestion of these organs; at any rate, in the event of recovery, no signs of organic disease remained; and in all the fatal cases marked hyperæmia existed. In many, but not all (*e.g.*, F. IV.) of those who had previous signs of organic renal disease, the eruption proved fatal.

Lungs.—In most of the fatal cases which were examined after death, the lungs showed intense hypostatic congestion. Case M. XIII. and one or two others were attacked with pleurisy during the course of the disease. Pneumonia occurred in the course of case M. I.,* and also in some others. Attacks of dyspnœa without physical lung signs were observed in M. IX., and, as already mentioned, in all the fatal cases.

The *heart* gave evidence of sharing in the general weakness, and the pulse was usually feeble, of low tension, and often irregular. I do not think any permanent derangement has resulted. The purpuric basis of the eruption to which reference has been made may be regarded as a vascular complication. Sometimes, as in the case of M. LXXVIII., it showed itself as a sequel, after the skin had apparently recovered. In that case the entire body and limbs became covered with thickly set spots of extravasated blood, varying in size from a split pea to a large bean. In some of the latter the superficial layers of the skin were raised into a sort of blister, from which a blood clot could be turned out.

Complications and Sequelæ.

The *conjunctivæ* were inflamed in all the severe cases where the face was involved, and discharged a highly irritating sero-purulent fluid. Similar acrid fluid came from the nostrils in a few cases. But the inflammation did not stop here, for the iris was often involved. Many of the patients suffered from irido-cyclitis, with severe photophobia. Several were troubled for some weeks, after all rash had disappeared, with attacks of recurrent conjunctivitis or iritis (*e.g.*, F. LXVII., F. LXXVII.).

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* Published in the *British Medical Journal*, Dec. 5th, 1891.

As the skin lesion subsided, several of the patients (twenty or more cases) were troubled with *boils or carbuncles*, sometimes blind—*i.e.*, not containing matter (*e.g.*, M. LIV.)—but more generally suppurating. One case (M. LXXXV.) had as many as nine carbuncles on different parts of his body at one time, and another (F. LXXV.) had five boils at once on the arm.

As the flakes cleared off, the new skin was unduly congested and tender, which was only to be expected; but in several instances this was succeeded by a brownish or chocolate *pigmentation*. The pigmentation was very evenly distributed over the body. None was discovered on the mucous surfaces.

The falling off of the hair and the shedding of the nails, already mentioned, continued for a considerable time (some months) after all signs of the eruption had gone.

Varieties.*

As regards the clinical varieties of the affection, beyond the two types founded on the character of the eruption, to which reference has already been made (p. 41), no other distinct varieties need be recognized. The two types may conveniently be called "Dermatitis humida" and "Dermatitis sicca."

The division into these two classes seems to be a legitimate one, for there are other features which separate these groups, besides the character of the rash. The dermatitis humida generally ran a more rapid course than the dermatitis sicca, which was nearly always prolonged and chronic. Moreover, so far as my recollection serves me, weakness was a more marked feature of the dry variety than of the moist. This was possibly on account of the ages of the sufferers, for there was a distinct tendency for the older sufferers to be affected with the dry variety. The table showing the ages in the respective groups may need revision, but the average age of the moist cases was 62·6 years, and that of the dry 68 years, as compared with

* The substance of the remarks on varieties, diagnosis, etiology and anatomy have already appeared in the *British Médical Journal*, January 9th, 1892.

the 64·8 which is the average age of all the patients attacked. It would seem that the variety of eruption was also determined to some extent by the idiosyncrasy of the patient in possessing what would be called a dry skin, or a moist and easily perspiring one; for the former mostly resulted in dry or "pityriasis" cases, and the latter in moist or "eczematous" ones. Of the total number attacked up to November 1st, 1891, 100 belong to the moist type, forty-five to the dry, and eighteen were of a mixed type, different parts of the body presenting different varieties of the eruption.

Although it is inexpedient to make any other division than the one mentioned, still the cases differed considerably from one another in detail, and especially in the extent and distribution of the rash and the severity of the constitutional symptoms. Some of the cases had only a small amount of the eruption, localized perhaps to one side of the face, or to the ears (as in my own attack), or to the hands, or to the flexures of the joints. In these the constitutional symptoms were generally, though not always, of quite a trivial order, and if seen alone, apart from the epidemic, might (excepting perhaps, the exfoliation) have been taken for eczema, had it not been that other instances of the disease, occurring in the same place and at the same time, linked them step by step with those of a severer type, where the whole body was covered by inflamed skin, and the constitutional symptoms were extreme.

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The different manner in which the cases commenced, simulating Rötheln, Erythema papulatum, Ringworm, &c., cannot be said to constitute varieties; for as the case progressed a more or less uniform appearance was presented.

Diagnosis.

Bearing in mind the variation amongst the cases, it is not surprising that some of them require careful differentiation, although a well-marked case presents no great difficulty. The leading feature, the pathognomonic symptom, of this disease is the exfoliation of the epidermis. It occurred in all the cases; and it is worth noting that the desquamation took place occasionally in some parts without any previous rash, as in case M. XXXVIII., and like the falling out of the hair in case F. LXX.

A. *Erysipelas.*—When the chief part involved was the face, or indeed any part containing much loose cellular tissue, the tumefaction of the parts, sufficient sometimes to close the eyes, bore a strong superficial resemblance to erysipelas. But the gradual advent, the absence of pyrexia, the often vesicular nature of the eruption in some parts of the body, and the fact that the rash occurred in other parts in a more typical manner, were among the features which served to distinguish the cases from erysipelas.

B. *Rötheln.*—We have seen that the rash in eight males and six females began with blotches, and these cases, before the maculæ became confluent, were exceedingly suggestive of German measles. But the eruption was too permanent, and very soon took on a vesicular or scaly character; and, further, the absence of pyrexia with such an extent of rash, almost alone served to distinguish these cases from rötheln. One case presented much difficulty, F. XVIII. In her the patches were not very extensive, did not become confluent, and were only a little scurfy. This case would undoubtedly have passed for rötheln had it not been linked step by step with other cases of the epidemic.

C. *Pityriasis rubra.*—The fact that the disease was an exfoliative dermatitis brought it within this class of malady; and all the cases belonging to the "dry" type had a striking resemblance to the descriptions of pityriasis rubra by Willan and Wilson.* But, in the first place, my cases were evidently contagious, or at any rate occurred in the epidemic form, no mention being made of this in the description by these authors. Secondly, Dr. Liveing says, "the affection (pityriasis rubra) is very commonly met with in children, and persons possessed of a delicate skin and fair complexion," whereas the great majority of these cases occurred in adults and old people. There were very few amongst children, and these very slight. Thirdly, there is the difficulty of reconciling the "moist" cases, which constituted the majority, with the recognized type of pityriasis rubra. Liveing † describes the skin in pityriasis rubra as not infiltrated or thickened, but in my worst cases the skin was very decidedly so, and in all there was distinct induration. Pityriasis rubra may last several years, and is said to be a very fatal disease, but no mention is made in the descriptions of either a definite course or epidemic occurrence. Nevertheless, in some respects my cases tally with this author's description of pityriasis rubra.

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* Wilson, "Diseases of the Skin," 5th edition, 1868, p. 111.

† "Diagnosis of Skin Disease," 1878, p. 100.

Pityriasis rubra, says the last-named author (p. 98), "is really a rare or peculiar form of eczema, as it is now regarded by Erasmus Wilson, Neumann, and even Hebra himself, who was the first to describe the affection as a distinct disease. It differs from common eczema chiefly in the entire absence of moist exudation on the surface of the skin, and in the extraordinary exfoliation of the cuticle. The first distinction I consider more apparent than real, for I have detected traces of dried exudation of the under surface in several cases."

It may be here mentioned that I examined some of the flakes shed by those cases apparently quite free from any exudation, and, by the aid of a lens, dry secretion was distinctly visible on the under surface, a fact which tends to bring the cases under consideration within the category of vesicular or eczematous diseases.

D. *Eczema.*—Let us, therefore, inquire in what respects the epidemic under consideration resembles eczema in its acute general form:—

1. Both diseases usually start as a papular rash.
2. Both are prone to become vesicular, and to be attended by exudation. We have seen that altogether 118 cases out of 163 had a definite amount of exudation.
3. Both diseases have a marked tendency to select as a starting place the flexures of joints and folds of skin, *e.g.*, beneath the mammæ, or behind the ears; and here also in many of the cases the rash predominated.
4. Both diseases are apt to begin in one part of the body, and then as fresh patches appear in another part, the first one either runs an independent course or fades away; thus, different parts of the body present different stages of the eruption at the same time.

There is no doubt that many of the cases, especially in their early stage, bore a striking resemblance to eczema; and at the commencement of the epidemic, in July,* I fell into the error, and so did others who saw the cases, of supposing that it was a variety of eczema, hitherto undescribed, occurring in an epidemic form; but further scrutiny, and the observation of many more cases, especially in a more advanced condition, have led me to doubt whether it is eczema in any form that we have had to do with; and this view is now shared by others † much more competent to speak than myself.

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* Vide *Lancet*, Aug. 1st, 1891, p. 266.

† Vide discussion at the Medical Society of London, *Brit. Med. Journal*, Dec. 5th, 1891, p. 1207.

The differences between the two diseases are :—

1. That the amount of dermal thickening and inflammation is certainly far greater than is seen in eczema of even a severe kind. It seems to be an essential part of all fully-established cases, young and old alike.

2. The exfoliation of flakes of epidermis, which occurred in both "moist" and "dry" cases, is different from any other skin disease, excepting pityriasis rubra and scarlatina. In not a single one of my cases was this feature absent.

That a proportion of the cases (about one-third) were apparently free from exudation from beginning to end is not a point on which too much stress should be laid as differentiating them from eczema, for, as we have seen, exudation could be discovered on the under surface of the scales; and thus, in the same way as Dr. Liveing had brought pityriasis rubra into the category of eczema, so could my "dry" cases be brought into a class of vesicular diseases.

3. The definite course of 6 to 8 weeks which most of the cases ran is certainly a notable feature, They were, like eczema, liable to relapse, but the primary attack had a definiteness which differs widely from the clinical history of eczema, either localized or general, and which struck the most casual observer.

4.—In acute general eczema there is usually a certain amount of *malaise*, but nothing like the constitutional disturbance present in the majority of these cases, and which resulted in a fatal issue in the large proportion of 12·8 per cent.

5.—Eczema attacks all ages, and especially the delicate skins of children; but this disease has been almost entirely confined to persons at or beyond the middle period of life, notwithstanding the fact that all ages were exposed to the contagion.

6.—The occurrence of this disease in an epidemic form distinguishes it at once from any variety of eczema hitherto described.

Nevertheless, the resemblance of some of my cases, especially the slighter ones, to eczema, and certain others to pityriasis rubra, was so remarkable as to render it *highly probable that the malady, at least when occurring in a sporadic form, might be, and probably has been, classed as one or other of these diseases.*

It is possible that there are other diseases from which these cases ought to be distinguished, but I have purposely abstained from reading authorities lest my mind should become confused or biassed in the observation, and prevented, by preconceived notions, from a realization of their true type.

PROGNOSIS.

Out of 163 patients attacked with the disease 28 died; but in 7 of these death was principally due to some other disease. However, in 21, or 12·8 per cent., death was directly dependent on the epidemic malady. Thus the death-rate is higher than that of scarlet fever, which is 10·85 per cent.,* or of small-pox, 10 per cent.; a fact which bears witness to the serious nature of the malady.

Eighteen of the fatal cases were males, and only three females; so that the death-rate amongst the males was 20·22 per cent., and amongst the females only 4·05 per cent. The mortality, therefore, was much greater in the male sex; and this corresponds with another fact—viz., that although the average duration of the disease was about the same in both sexes, the male cases were of much greater severity than the female.

Age seems to have an important influence both on the severity and on the mortality of the affection. The youngest of those who died was 49, the next 59, the average age amongst the 21 fatal cases was 71¼ (77 amongst the females, and 70 amongst the males) as compared with 64·8, the average age of all those attacked.

The mode of onset seems to give no indication of the severity of the attack, for, as already mentioned, it frequently happened that a case, slight at the onset, and slow in developing, would suddenly take on a most acute exacerbation.

Among the constitutional symptoms, the degree of weakness and prostration was a very fair indication of the probable course both as to its duration and issue. And there are two signs which are, as already noted, of the gravest import—tremor or twitchings of the muscles, and laboured respiration without physical signs of lung mischief. Not one of the patients in whom I observed these two symptoms recovered, although, in some cases, they seemed at the time to be doing well in other respects.

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* Wynter Blyth: "Manual of Public Health," p. 381.

TREATMENT.

Very many different kinds of treatment were employed, but when the disease had once become fully established nothing beyond amelioration could be effected. As a local treatment a 1% lotion of Creolin seemed to be efficacious in some cases, and in two or three instances where it was used quite in the initial stage the disease was to all appearances cut short. Even at a later stage this lotion, or a 1% ointment made up with lanoline, seemed to have a remarkably soothing effect on the irritable inflamed skin, and some cases improved considerably under it. Mr. J. R. Lunn found that if collodion were freely applied to a patch of the eruption in an early stage, it checked the progress of the disease.

The irritation from which so many suffered was often relieved by warm soda-baths or bland emollient ointments and lotions, such as vaseline, zinc ointment, calamine lotion, lead lotion, etc., etc.

No internal medication was of much use, but stimulants were distinctly indicated, and in more than one instance large quantities of whisky appeared to avert a fatal issue.

ETIOLOGY.

A. PREDISPOSING CAUSES.—1. *Age.*—Most of the sufferers were in advanced life; indeed, there were none but quite trivial cases in children and young adults. The average age of all males attacked was 63·67, of all females 66·17, and of both sexes 64·8. But not only did all the pronounced cases occur in persons past the middle period of life, but instances might be mentioned where, of several patients equally exposed to contagion, the younger ones escaped and the elders contracted the disease. More than one example is within my recollection where the disease, in its spread along the side of a ward, would skip over a bed containing a younger person.

Nevertheless, it may be objected that there is a larger proportion of elderly people in the Infirmary, and therefore it is necessary to know the number of inmates in each decade of life who were equally exposed to the morbid influence, so as to ascertain the relative proportion of each attacked.

The following table prepared by my colleague, Dr. E. V. Hugo, gives the information required:—

TABLE B.—SHOWING PROPORTION BETWEEN THE NUMBER OF THE CASES AT A CERTAIN AGE AND THE NUMBER OF PERSONS IN THE NEW INFIRMARY AT THAT AGE.

Age	1–9		10–19		20–29		30–39		40–49		50–59		60–69		70–79		80–89		Totals at all ages.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Number of Patients under Treatment at that Age .	27	29	8	16	24	33	28	18	29	29	26	17	43	30	37	42	5	14	227	228
Number of Cases affected with the Disease . .	1	0	0	1	2	2	2	1	8	2	9	2	16	12	18	9	1	4	57	33
Proportion between Cases of the Disease to Patients under Treatment at that age—per cent. . .	3·7	0	0	6·25	8·33	6·06	7·14	5·55	27·58	6·89	34·61	11·76	37·20	40·00	48·64	21·42	20·00	28·57	25·11	14·47
Proportion attacked in both Sexes combined . .	1 out of 56 = 1·78°/₀		1 out of 24 = 4·16°/₀		4 out of 57 = 7·01°/₀		3 out of 46 = 6·52°/₀		10 out of 58 = 17·24°/₀		11 out of 43 = 25·58°/₀		28 out of 73 = 38·35°/₀		27 out of 79 = 34·17°/₀		5 out of 19 = 26·31°/₀		90 out of 455 = 19·78	

From this it will be seen that while only 1, 4, 7, 6 per cent. were attacked among the earlier decades of life, 17, 25, 38, 34, and 26 per cent. suffered in the decades from forty upwards. This is especially noticeable among the males, for whereas the percentages in the first four decades were 3, 0, 8, and 7, the percentage of the 5th decade leaps suddenly to 27; the 6th to 34; 7th to 37; 8th to 48; and 9th to 20. Hence one may fairly conclude that advanced life is an important predisposing cause of the disease, and that the predisposition gradually increases up to 80 years of age.

2. *Sex.*—It will be seen from the above table that out of a total of 227 males under treatment in the new infirmary, 57 or 25·1 per cent. were attacked, but out of the 228 females only 33 or 14·4 per cent. were attacked. The figures of the sick-wards do not show quite such a contrast, for of the males 22·14, and of the females 16·94 per cent. were attacked. If both places be taken together it is found that 23·67 per cent. of the total males, and 15·74 per cent. of the total females were attacked; showing that the male sex exhibited a marked predisposition to the disease.

3.—As to the *occupation* of the patients, it seemed to have no particular influence apart from other causes.

4. *Previous ill-health* and "*Hospitalism.*"—Among the patients of the New Infirmary 19·7 per cent. were attacked, but among the healthy staff only 2 (myself and a housemaid), or 3 per cent. Again, out of 391 patients in the workhouse sick-wards, 18·6 per cent. suffered from the disease; whereas out of 169 aged and infirm but otherwise healthy inmates of the workhouse proper only 11 were attacked, or 6·5 per cent. And of these latter, 7 (2 males and 5 females) were "helpers" in the sick-wards, and constantly tending on patients already suffering from the disease. From these facts it would seem that previous sickness and "hospitalism" are almost as important factors in the causation as advancing years. Indeed there are only about nine patients now in the Infirmary over 60 years of age who have been in from the commencement of the epidemic, but who have escaped.

5. A careful examination of a tabulated statement of *the diseases* for which the various patients were under treatment at the time when they were attacked with the eruption, did not lead to the suggestion that any particular disease was more prone to be complicated by the

eruption than another, with the possible exception of ulcer of the leg. A rather larger proportion of cases of this disease were attacked with the eruption. A few of the cases exhibited evidences of a gouty diathesis, either in themselves or their family history, but not a sufficient number to show any connection. Some ten of the epidemic cases had had *influenza* during the twelve months preceding the outbreak, but, so far as I have been able to discover, this disease produced no marked predisposing influence.

It has been suggested that the epidemic eruption was one of the various manifestations of influenza, but I have been unable to trace any evidence in support of such a supposition. I owe a great deal to the interest which the "sisters" and the nurses of various wards have taken in assisting me in this inquiry, and the observation of one of them (the sister of V. ward) ought, I think, to be recorded, namely, that five of her patients complained for two or three weeks before the appearance of the rash of symptoms exactly resembling influenza, but *without any elevation of temperature*, namely, headache, pains in the limbs and across the loins, loss of appetite, and a feeling of sickness without actual vomiting. In another ward (VIII.), which contained a good many elderly bedridden patients, the "sister" noticed a very marked falling-off of the appetite for several days before there were any signs or symptoms referable to the skin. Another "sister" (VII. ward) declares that in addition to the feeling of irritation on the skin which many of her patients described before the actual rash appeared, they also complained of feeling very tired, of pains across the loins and down the limbs, without any elevation of temperature, for five or six days before the eruption was visible.

B. Exciting Causes.—Turning next to the possible exciting causes of the epidemic, the first to be examined is *food*. A careful examination of a table showing the articles of dietary partaken of by those affected about the time when they were first attacked, prepared for me by Miss Annette Benson, M.B. the clinical assistant, entirely fails to connect any particular article or articles with the disease, and the mere fact that instances of the same disease have occurred at the Marylebone Infirmary, St. Mary's Hospital, and elsewhere, in which places not only was the dietary scale different, but the articles were procured from different sources, is alone sufficient to preclude the dietary from any participation in the etiology. It may not be out of place to remark that the dietary at the Paddington Infirmary is exceedingly liberal, and prepared with greater care than usual. The food, both in quantity and quality, is superior to any hospital or infirmary with which I am acquainted. The only articles which the Paddington and Marylebone Infirmaries procure from the same contractor are milk and fish.

2. *The soap* was suspected by some, and inquiry made. But the same soap had been used for a long time previously to the outbreak without any harm. And here again a different soap from a different contractor was in use at Marylebone Infirmary.

3. *Scabies* was another suggestion in the earlier days of the epidemic. But no burrows or other signs were ever found, though careful search was made.

4. *The water-supply* is a possible source of evil either internally or externally. The water-supply of the Paddington Infirmary and Workhouse is derived from the West Middlesex Water Company, that of the Marylebone Infirmary from the Grand Junction Water Company.

Moreover, if any local irritant, such as soap, scabies, or water were the exciting cause, how is it:—(*a*.) That the delicate skins of children and infants escaped in so marked a manner; while the proneness to the disease increased *pari passu* with advancing years. (*b*.) That the parts first attacked by no means always corresponded with the parts most exposed to local influences, and a considerable number started on the back, chest, or abdomen. (*c*.) That the Marylebone Infirmary, obtaining its food, water, and soap from different sources should, at the same time, be subjected to a precisely similar outbreak as the one we are considering.

The question therefore remains:—Is the disease due to some obscure *epidemic influence* such as climate, atmosphere, season, or contagion?

5. *Climatic or atmospheric causes.*—It certainly is a remarkable circumstance that the two neighbouring metropolitan infirmaries which are the newest, and which are therefore, if one may say so, renowned for their sanitary perfection, should be simultaneously subjected to the ravages of this disease. A few cases occurred at Lambeth,* but nothing like the outbreak at either of the other two. The remaining twenty-two metropolitan infirmaries, containing up-

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* Details of which will appear in our next issue.

wards of 10,000 inmates of the same class, seem to have been exempt. Dr. Downes stated* that those of the rest of England were also exempt.

6. *Soil.*—The Paddington Infirmary is built on a hill of nearly the same altitude as Sydenham and Highgate hills. The soil immediately beneath is London Clay; both this and the Marylebone Infirmary being situated just outside the strip of surface gravel which runs along the Bayswater Road. The depth of the "London Clay" in this neighbourhood is about 250 ft. Beneath this comes a narrow strip, 50 or 60 ft., of the "Woolwich and Reading Beds" (clays, loams, sands, pebble beds, various); and, under this, 600 ft. of "Chalk." Beneath this a narrow layer, not more than 15 ft., of "Upper Green Sand" separates the Chalk from the "Gault below."

An interesting fact has come to my notice. During the small-pox epidemic of 1881, and previously, the ground on which the Paddington New Infirmary now stands was used for the erection of wooden huts into which small-pox cases were received. In 1883 when excavations were being made for the foundations of the new buildings an old cesspool was tapped, from which the stench was described as very powerful. Several of the workmen engaged at this particular spot immediately developed small-pox, and one or more of them died. This fact may possibly be of some interest if read in connection with the remarks concerning compound diseases.

7. *Season.*—Superficial examination of the occurrence is somewhat suggestive that an obscure seasonal influence, though certainly not the proximate and only cause, may take some part in the etiology; for at Paddington the outbreak has been strictly limited to the summer and autumn months; and Mr. Lunn and Dr. Richards stated that cases of a similar disease occurred at Marylebone Infirmary and Hanwell Asylum respectively in autumn (1890), only of a milder type and fewer in number. The following table shows the numbers which were attacked in the various months at Paddington, from which it will be seen that the greatest number occurred in July and August:—

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* Discussion at the Medical Society.

TABLE C.

	May.	June.	July.	August.	September.	October.
Males	2	11	37	29	6	4
Females ...	0	9	22	27	9	7
Totals ...	2	20	59	56	15	11

8. *Contagion.*—There are many features in which this malady resembles a specific infectious disease, but the absence of pyrexia almost alone forbids it being grouped with this class of disorder. The absence of fever is a point of considerable interest and will merit further investigation. Nevertheless there are certain features in the clinical history of the epidemic, and of the cases, which support the view that it is contagious, and due to the presence of a specific living organism :—

i. The definite course of seven or eight weeks through which the primary attack mostly ran.

ii. The symptoms of constitutional disturbance which attended the skin lesion.

iii. Although, as we have seen, the cases differed widely in detail, the marked general resemblance between them all was a fact which struck the most casual observer ; and the inference, therefore, is that the cause, whatever it be, is specific.

iv. These three features, in presence of a cutaneous eruption, complete the resemblance to a contagious eruptive fever.

v. The serpiginous rings with which some of the cases started were almost identical in appearance with tinea circinata, a malady known to be due to a living organism.

vi. The marked effect of germicides in modifying the skin lesion when applied at an early stage. The efficacy of collodion applied to and sealing up a patch in a very early stage, preventing its spread, is a fact having a similar bearing.*

vii. The wave-like manner in which the outbreak rose and fell, strictly limited to the summer and autumn months of 1891.

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* *Vide* p. 55.

viii. Clear instances of direct contagion are always difficult to establish; but it is worthy of note that 7 of the 11 persons who, out of 193 healthy aged inmates of the workhouse proper, contracted the disease, were acting as "helpers" or pauper nurses, tending on, and in direct contact with, patients already suffering from the complaint. And further, the facts that I and my little dog contracted undoubted attacks of the disease are particularly interesting in this connection.

ix. The constant presence of a specific organism in the serum and exudation; and, as Dr. Russell* has shown, in the blood and tissues.

Nevertheless the disease is not malignantly contagious, for it does not, as we have seen, attack the sick and healthy indiscriminately. Certain predisposing conditions would seem to be essential, chief among which are advanced age and sickness.

Whether one attack confers immunity, and whether there exists a period of incubation,† are questions which cannot be answered at present. There would seem to be a prodromal period in some cases, as mentioned on p. 58.

There are certain features which are highly suggestive, though not more than suggestive, that the specific contagion, whatever it be, attacks the unbroken skin, and is introduced into the system by these means.

1. The ringed serpiginous character of the eruption at the outset, which was definitely observed in five cases.

2. The marked effect of local germicides in controlling the disease, if applied in the early stages of many of the cases; and of absolutely cutting it short in at least one.

3. The eruption showed some tendency to start on exposed parts, such as the face and ears, and to spread thence. This is what one would expect with an air-born germ.

4. The proneness of the eruption to assume an eczematous character; eczema being the form of skin disease which most often comes from local irritation (*e.g.* "Baker's itch," &c.).

(*To be continued.*)

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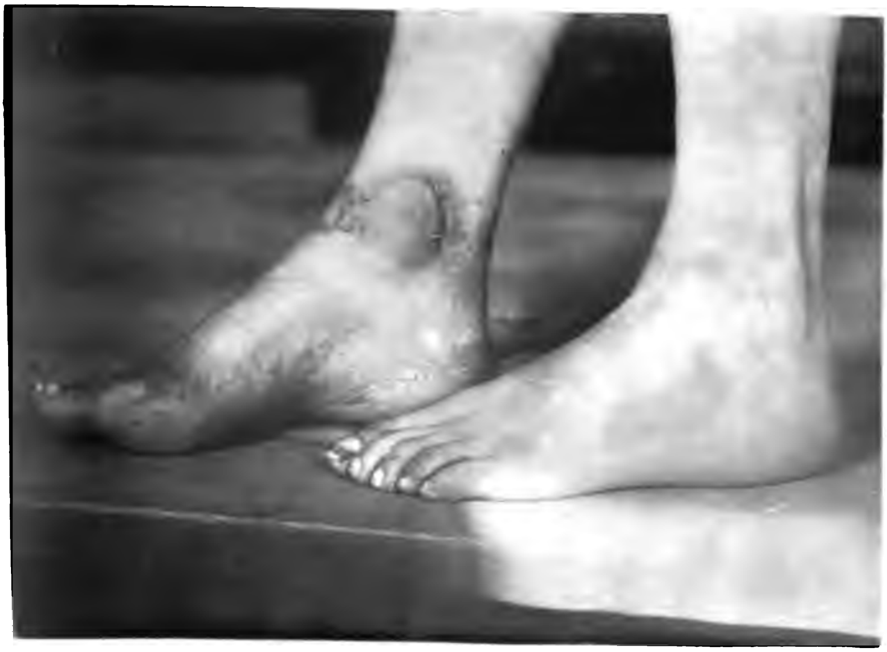
* Dr. Russell's Bacteriological Report will appear in our next number.—Ed.

† Case M. XXXI. developed the rash two days after admission, case M. XX. four days, and case M. XXV. four weeks after admission.

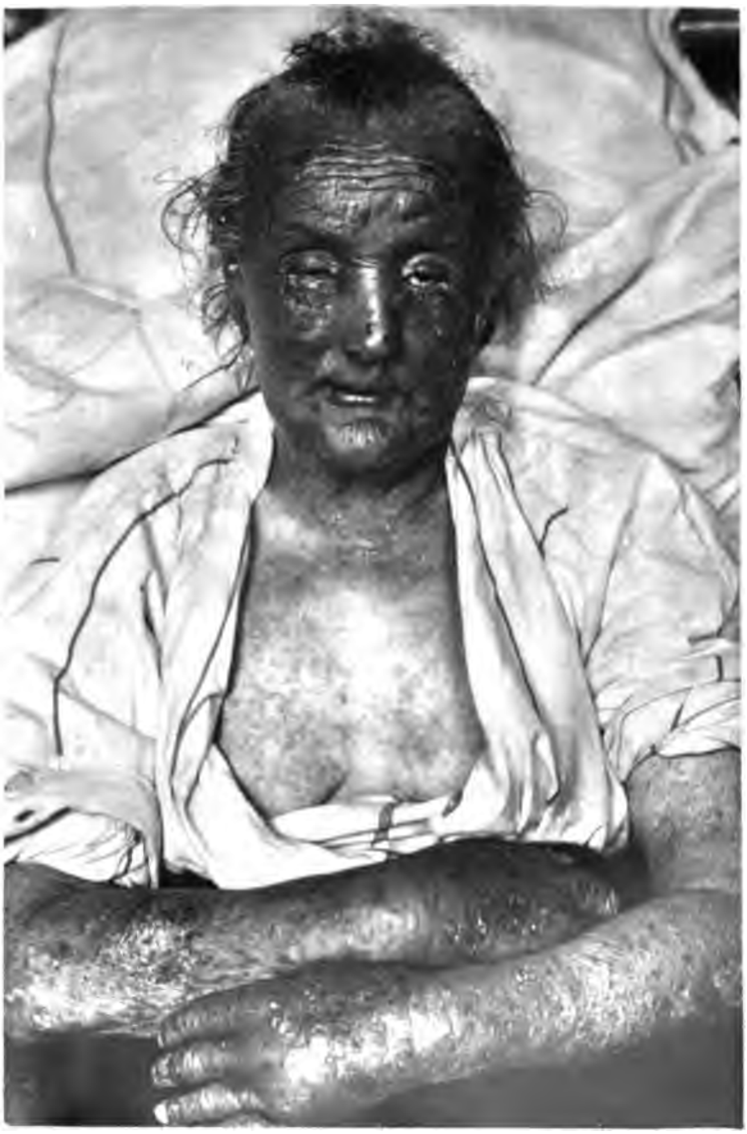
PHOTOTYPE 3.

Case M. LIV.—Three days after start.—Shows *Papulo-Erythematous stage*, usual mode of commencement (best seen below and to left).



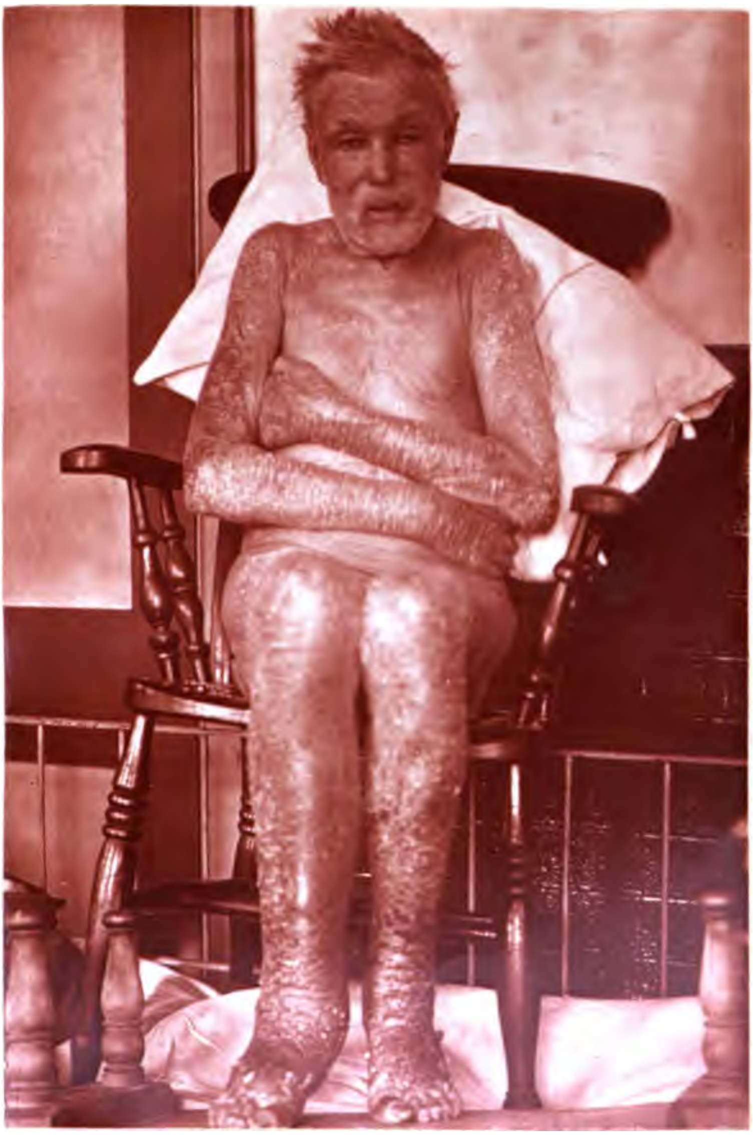
PHOTOTYPE 4.

Case F. XXVIII.—Three days after papule started on right ankle, shows ringed manner in which the eruption~~s~~ sometimes starts, resembling ringworm.



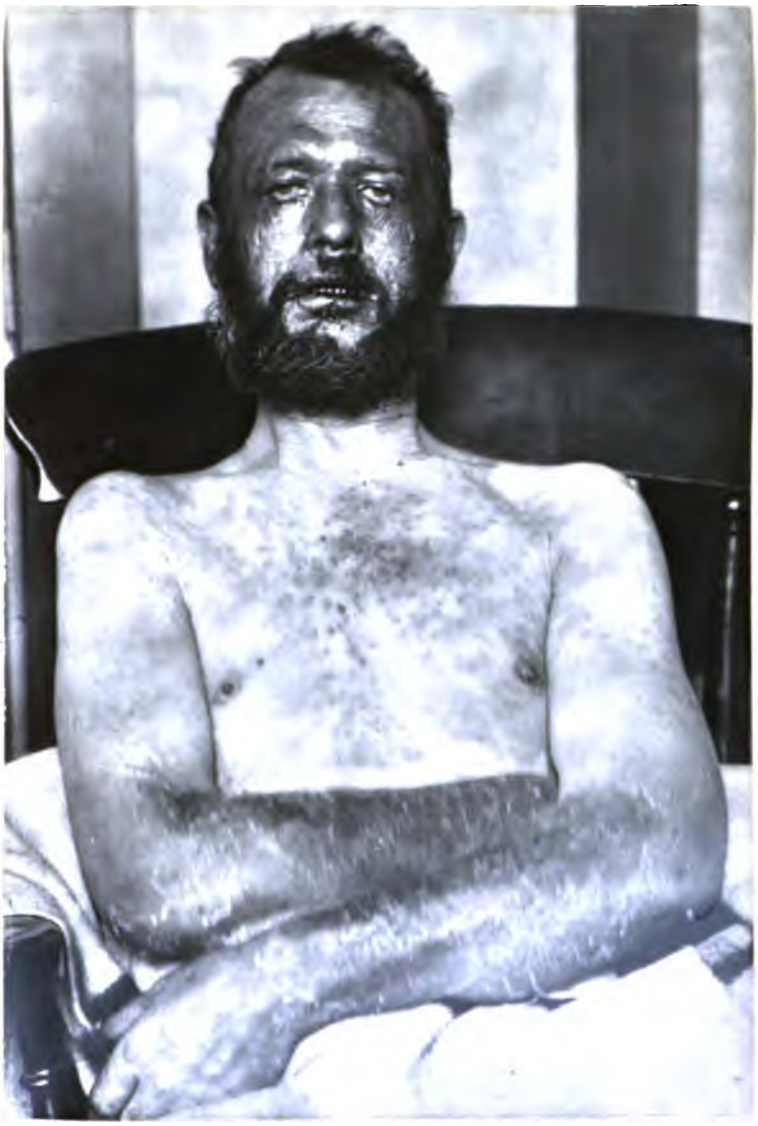
PHOTOTYPE 5.

CASE F. XXI.—(naturally a thin faced woman) three weeks from real start. Shows swelling. Same case as coloured plate.



PHOTOTYPE 6.

Case M. I.—*Stage of Exudation and Desquamation:* six weeks from start. To show universal flaking.

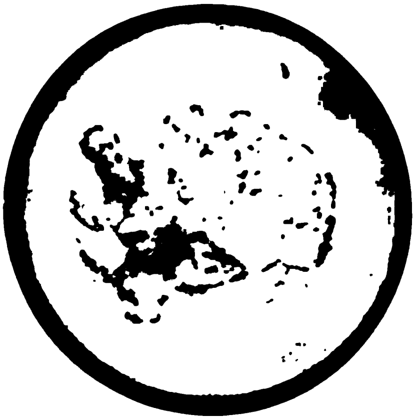


PHOTOTYPE 7

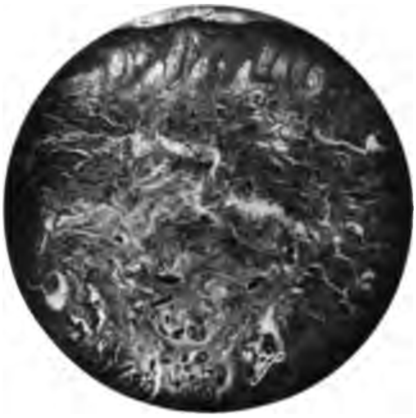
Case M. XXV.—In 7th week.—*Stage of subsidence.* Shows smooth parchment skin on face ; swelling has subsided ; rash on chest fading ; tremor of arms causes blurring ; died 4 days later.

EPIDEMIC SKIN DISEASE (SAVILL).

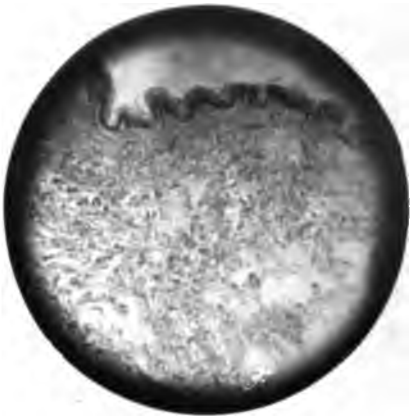
PHOTOTYPE 8.



PHOTOTYPE 9.



PHOTOTYPE 10.



PHOTOTYPE 8.—Pure culture of a specific organism found in the blood of Case M., XXV. (phototype 7, and p. 52) (Swift's $\frac{1}{12}$" and projection eyepiece). After death the heart was rapidly removed and plunged whole in strong sublimate solution, withdrawn, and a nick made in left ventricle: three sterile capillary tubes pushed into the cavity, allowed to fill, and hermetically sealed. *The tubes were set aside for three months.* At the end of that time one tube was found to be swarming with various bacteria. It was evidently contaminated. But the other two gave *pure* cultures (from which the above was taken), *and no other organisms were present.* With a lens all the cocci will be seen to be in pairs. Under high powers, the elements are mostly oval, placed usually side by side, sometimes end to end. A "diplococcus" having identically the same form and behaviour has been constantly found in the serum and exudation of other cases by myself, and in the skin, scales, and blood, by Dr. J. Risien Russell (*British Journal of Dermatology*, April, 1892).

PHOTOTYPE 9.—Skin of palm from Case M., XIV. (p. 49); death on 41st day. Shows excess of newly formed, highly vascular tissue in dermis; cells of Rete Mucosum swollen. Superficial cells of epidermis have come off in flakes.

PHOTOTYPE 10.—Section of normal skin for comparison. Precisely the same amplification (Zeiss's a' a').

REVIEW.

FRAMBŒSIA OR YAWS.*

Mr. Numa Rat, who has had many years' experience of yaws in South America, the West Coast of Africa, and the West Indies, says, in the preface, that he has written the essay for the benefit of the officers of the Colonial Medical Service. We have no hesitation in expressing our opinion that it will be of value not only to the officers of the service named, but to everyone interested in the advance of scientific medicine. The essay is a model of completeness. Though concise, the language is always clear; and though freely split up into sections, the continuity of the story is never lost. We propose to extract from its pages some of the more important facts before dealing with Mr. Hutchinson's interesting criticism.

The essay is divided into four parts. Part I. gives an account of the origins of the words "Yaws" and "Pian," the names of the diseases resembling yaws, a graphic history of the disease, its geographical distribution, and concludes with a complete chronological biography. Part II. deals solely with the clinical history, which is divided into four stages. 1. The Incubation Stage. 2. The Primary Stage. 3. The Secondary Stage. 4. The Tertiary Stage.

1. *The Incubation Stage.*—This dates from the reception of the virus to the formation of the initial lesion at the seat of contagion, and averages from three to ten weeks, the former being the usual period. Only trivial symptoms occasionally occur during this stage, pointing to some general disturbance of health.

2. *The Primary Stage.*—This consists in the formation of the initial lesion of the disease. The first appearance is a papule, which at the end of seven days discharges a yellow fluid. Later, when the

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* "Frambœsia, or Yaws," by J. Numa Rat, Medical Officer, Leeward Islands, West Indies, with Prefatory Remarks by Jonathan Hutchinson, F.R.S. (Waterlow and Sons, London, 1891.)

scab formed by the drying of the discharge is removed, an ulcer is found with perpendicular edges and a clean base. In the course of a fortnight or longer the ulcer heals by contraction, and a slight scar is all that is left. Occasionally there are some modifications of this course; the papule may become a tubercle, and the ulcers may be deep and large. The commonest sites of the initial papule are the lips, breast, the groin, the genitals, and the perineum.

3. *The Secondary Stage.*—This stage is ushered in with fever, usually about a fortnight after the disappearance of the primary sore. The fever is paroxysmal, generally a quotidian. It is attended by backache and headache, and shooting pains—often very severe—in limbs and intercostal spaces. At this time a rash appears on the head, and gradually spreads till the whole body is covered. At first it is not unlike lichen tropicus, but by the fourth day some of the minute red spots on the head and face have become conical papules, and by the sixth day a similar change has taken place on the body and limbs, the rest of the rash having vanished. On the seventh day of the eruption the papules acquire on their apices a yellow tint. This change is seen first on the head, becoming general by the ninth day. The yellow tint is not due to the presence of lymph or pus, but to a substance apparently in no way different from inspissated sebaceous matter. Mr. Rat says that the appearance thus produced on a negro's skin is very peculiar, and looks like minute pieces of yellow wax of the size of a pin's head stuck on the patient's body.

The next phase in the evolution of the eruption, and the important one from a diagnostic point of view, is the development of the papules into tubercles. An average tubercle at full size measures a quarter of an inch in diameter and an eighth of an inch in height. It is composed of granulation tissue covered with a creamy acid secretion. Mr. Rat points out that, in spite of the name "framboise," the tubercle is in every respect unlike a raspberry, but is more like the top of a pickled cauliflower. The colour varies according to the amount of blood. In anæmia the tubercle is fawn-coloured, and in old-standing cases it will even assume the appearance of cartilage. In what may be called the normal course the tubercles dry up in about four weeks. During the development of the eruption there is always itching, which is at times severe, and the skin emits a peculiar sour odour.

The age at which the disease is most common is infancy, and, next to it, childhood. It is said to run a milder course in children than in adults; and so convinced of this are parents in some parts of Africa that every facility is given to contract the disease during infancy, and even inoculation is resorted to in order to ensure it. We must here briefly mention some of the more marked variations in the development of the eruption.

The tubercles may be larger or smaller, fewer or more abundant, being generally most numerous when smallest. Several may coalesce, forming a large patch of granulation tissue under a single crust. The tubercles may unite to form rings round the eyes, nose, mouth, or anus. The usual end of the tubercle is its disappearance by absorption at the end of six weeks, but in the weakly the average duration of the eruption is nine months, when no treatment has been used. In some instances the tubercles ulcerate. The ulcers are covered with yellow or brownish crusts, and easily heal under treatment, leaving shiny smooth scales. Tubercles are found on the palms and soles, but in consequence of the hardness of the epidermis in these regions, they do not protrude in the same way as on softer parts. They are also found in the mucous membrane of the nasal fossæ, where they cause pain in the nose and forehead.

4. *The Tertiary Stage.*—This is by far the most serious stage of the disease, for while during the secondary period the lesions are limited to the skin, in this period changes are brought about by which extensive destruction of deep tissues are effected. In unhealthy individuals some of the superficial ulcers already mentioned lose their crusts and become deep and irregular, with undermined edges and a fungous base. The commonest sites are the neck, front of the elbow, wrist, back of the hand, and the instep. In some cases the ulceration assumes a serpiginous form, and is usually seen below the knee. But the most characteristic ulcers of the tertiary stage are those originating in dome-shaped subcutaneous nodules, varying in size from a quarter of an inch to one inch in diameter. They occur chiefly about the ankle and wrist. The subcutaneous nodules resemble cysts in outward appearance, but are less circumscribed and movable. They are painless before they ulcerate, and may remain unchanged for a year or more. Mr. Rat considers that these nodules differ in structure from syphilitic gummata. The mucous membrane suffers severely in this stage. Ulceration of the nares, pharynx, and soft palate is not infrequent, and may occur as

long as twenty years after the last traces of the secondary symptoms have disappeared. It is usually accompanied by fever, generally of an intermittent character. In addition to the lesions already mentioned nodes and local inflammations may occur in the bones, muscles, and nerves.

Part III. is devoted to many interesting questions, such as the possibility of the disease being contracted a second time, the various modes of contagion, etiology, and the all-important question of differential diagnosis. After considering such diseases as Verruga Peruviana, button scurvy, parangi, Delhi boil, &c., Mr. Rat discusses in a comprehensive manner the differences between syphilis and yaws. The main points he lays stress on are the fungous eruption with its acid secretion, the absence of adenopathies and symmetry, and the uniform character of the secondary lesions, opposed to the polymorphic forms of syphilis. Among other general differences may be mentioned the following:—Yaws is common in childhood, is limited to tropical climates, is endemic and epidemic, is not proved to be hereditary, is not usually contracted through the genitals, that persons suffering from syphilis may get yaws, and *vice versâ*, and that the secondary eruption is attended with itching. It is in the tertiary stage that the difficulties of diagnosis, according to Mr. Rat, are the greatest. He says that, though morphologically similar at the commencement, the gummata of yaws differ from those of syphilis in the following respects: They do not fibrillate or caseate; they are limited to the extremities below the knees and elbows. The integument above them does not present "une coloration d'un rouge sombre," the skin over their centre remaining of its natural tint for months, until interstitial absorption is about to take place, when it then becomes inflamed and ulcerates.

It is in this relation—the identity or non-identity of yaws and syphilis—that Mr. Hutchinson's criticism must be considered.

Mr. Hutchinson takes Mr. Rat's facts and compares them with the account of the disease by other observers, and points out that though Hirsch thought yaws was a local disease, Mr. Rat gives strong proof that it is a constitutional and febrile malady, beginning with a local sore, observing stages, and having both secondary and tertiary phenomena. As a result, Mr. Hutchinson comes to the conclusion that the disease is a form of syphilis *modified by race and climate.*

Facts in favour of identity of yaws and syphilis:—

1. The stages observed by yaws are very similar to those of syphilis.

2. The character of the secondary eruption would appear to vary much as in syphilis.

3. The tertiary symptoms of yaws very closely resemble those of syphilis, and occur after intervals of much the same irregularity of duration which are usually noticed in the case of syphilis.

4. Papillary excrescences are known also in syphilis.

5. The methods of cure as regards the constitutional and later stages of yaws are precisely those adopted for syphilis. Former writers relied on the spontaneous cure of yaws as a strong argument in favour of non-identity. Mr. Rat, on the other hand, mentions mercury and iodide of potassium as the appropriate remedies for the same stages as they are used for syphilis.

6. Its restriction to certain localities. Mr. Hutchinson argues that as no Englishman comes back to England with yaws, that it would appear that it is a malady which cannot leave its home.

Unfortunately, in the limits of a review it is impossible to quote further from this interesting criticism. We recommend its careful perusal by all interested in the subject.

Part IV. is devoted to Pathology and Morbid Anatomy, to a series of cases illustrating various forms of the disease, and to an exhaustive consideration of treatment.

MALCOLM MORRIS.

CURRENT LITERATURE.

CONFUSION BETWEEN RODENT ULCER AND EPITHELIOMA.

In the meeting of the K. K. Gesellschaft der Aerzte in Vienna, November 13, 1891 (*Deutsche Mediz. Zeitung*, November 19), Adamkiewicz showed as healed a patient whom he had treated, apparently undeterred by the regrettable example set by Koch, by means of injections of a secret remedy. Four days after the injection, healing began, and in about six weeks the whole surface was completely skinned over. As diseased foci were still to be found at the periphery, and as somewhat rapid skinning over of the centre of such ulcers may be attained by other means, the procedure did not meet with much commendation. But what was most striking was the want of distinction made by the speakers between "epithelioma" and "rodent ulcer." Both are epitheliomatous carcinomata, it is true; but the origin, microscopic appearances, course and prognosis of these affections are so entirely different, that the confusion of the two, or at least the want of appreciation by the leading speakers, Billroth and Kaposi, of their differences, tends to bear out Unna's statement that no new growth is so misunderstood in Germany as the ulcus rodens. The case in point was obviously a typical rodent ulcer of many years' standing attacking the neighbourhood of the eye and spreading on to the lids. Kaposi had himself treated the case for years at intervals, whenever the patient would present himself, but he made no reference in his remarks to an ulcus rodens, and spoke only of hautkrebs and epitheliomata, some of which grew more quickly and deeply than others Billroth spoke of the case as one of "flat epithelioma," "which is also distinguished because it commences in more advanced age (*im höheren alter*) as lupus senilis, or, again, as ulcus rodens."

Rodent ulcer is so common in England, and we have thus so many opportunities of observing it in all stages, that it seems to us difficult to understand why our German-speaking colleagues should continue to confuse two affections which are clinically so different as to their origin, course, duration, treatment and prognosis.

H. G. B.

A GENERAL INFECTIVE COMPLICATION OF LUPUS VULGARIS.

Dr. V. Lespinne. (*Jour. des Maladies Cutanées*, October, 1891.)

In the course of lupus an infective complication may arise, which M. Lespinne attributes to the absorption of microbic products in the lupus wound.

He calls this infection an "intoxication," describing it as manifesting itself by a sudden rise of temperature, a typhoid condition, prostration, diarrhœa. Sometimes the stethoscope applied over the lungs suggests to the listener the beginning of acute miliary tuberculosis.

As soon as the infectious products are eliminated, the temperature returns to the normal; catarrhal phenomena disappear.

There is no evidence (says M. Lespinne) to show that these infective phenomena leave behind them permanent tubercular lesions of the viscera. On the contrary, the patients seemed to regain perfect health. It is possible, however, that some organic lesions may permanently persist.

The complications seem to be due to the absorption of the products of tubercle bacilli. During this complication the lupus patch alters in the same way as under the influence of Koch's tuberculin. H. Leslie Roberts.

THE BRITISH
JOURNAL OF DERMATOLOGY.

MARCH, 1892.

ON AN EPIDEMIC SKIN DISEASE,

SOMEWHAT RESEMBLING ECZEMA AND PITYRIASIS RUBRA, WHICH OCCURRED CHIEFLY IN THE WESTERN DISTRICT OF LONDON DURING THE SUMMER AND AUTUMN OF 1891.

BY THOMAS D. SAVILL, M.D. LOND., D.P.H. CAMB.,
Medical Superintendent of the Paddington Infirmary, London.

(*Continued from the number for February,* 1892.)

BACTERIOLOGY, AND THE DISEASE IN ANIMALS.

The *British Medical Journal* of Jan. 9th contains an account of some experiments I was able to perform in Professor Klein's laboratory while the epidemic was in progress. Specimens of the blood and tissues were taken from patients, both dead and living, and set aside for investigation.* But, as the exudation and scales were less likely to keep, I devoted my attention at once to these. In addition to examining the scales, both under the microscope and on culture media, the exudation, after the skin had been disinfected and allowed to exude afresh, was also examined. Once I was fortunate enough to obtain the serum from an unbroken vesicle.

As far as these experiments went, they demonstrated the constant presence, in the serum and exudation of patients suffering from the disease, of a microbe whose characters were as follows. It is an aërobic diplococcus which grows on all media, and which does not liquify gelatine—at any rate, for a considerable time. The cultures have a whitish translucent appearance, like a thin layer of bluish white paint, a crescentic outline, and take two or three days to mature in the hot chamber, and five or six days in the cold.* The organism bears some resemblance to staphylococcus albus, but differs from it in not liquefying gelatin, and in other minor points. It is a source of some satisfaction to find that Dr. Russell, by perfectly independent researches, has detected identically the same organism in the blood, skin and other tissues. Step by step he came to the same conclusions.

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* Which was kindly undertaken by Dr. J. Risien Russell, whose results will be found in the next number of this Journal.

The pathogenic properties of this microbe require further investigation. Up to the present time, the disease has only been twice conveyed to animals. My little dog spontaneously contracted an undoubted attack of the disease. It is accustomed to make the daily round with me of all the wards; and when the epidemic was in progress, its back became red, in places slightly exuding, and very irritable. It was excessively thirsty, restless at night, and subject to attacks of panting without cause. After a week or so it recovered, and then the hair came out in large quantities.

The other instance was a rabbit which Dr. Klein inoculated with a pure sub-sub-culture originally obtained from the unbroken vesicle alluded to (case M. V.†). For two days the animal presented no signs; but on the fifth day, the ears and parts of the body became distinctly scurfy and red. This subsided somewhat on the eleventh day, the animal appearing all along in its usual health. On the twelfth day it died without obvious cause. Specimens of the blood and scurf were hermetically sealed and set aside. Subsequently, Dr. Russell obtained from these pure cultures of the characteristic diplococcus, which corresponded in all particulars with the cultures obtained from patients who suffered from the disease. An illustration of the culture obtained from the rabbit's blood will accompany Dr. Russell's paper.

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* Unfortunately these periods became transposed in the account in the *British Medical Journal*, loc. cit., p. 61.

† Reference number to Cases at the end.

ANATOMY.

The essential lesion is an inflammation of the derma, a dermatitis. No other special morbid change was found after death. Microscopical and other examination reveals considerable *effusion of cells and fluid between the derma and epidermis;* and, as a result, the latter is separated in flakes, scales, or dust. It always seemed that if, by reason of the thickness of the cuticle, the upward resistance was too great for the fluid to collect around the papillæ into vesicles, therefore vesicles did not form, and no exudation was visible on the surface. Nevertheless the exudation was there, and it might, as already stated, be discovered by the aid of a simple lens, on the under surface of the flakes. Under these circumstances it made its way laterally beneath the cuticle, and caused separation of the latter in flakes of larger size. This was what usually happened in the skin of the palm, where the epidermis is comparatively thick, and also to a less extent in the general skin of old people, in whom the cuticle is thicker than in childhood, though the derma is atrophied.

This, I take it, was the explanation why the "dry" type should tend to prevail among the old, and the "moist" variety among the middle-aged sufferers; for out of the 89 males available for observation on this point, the average age amongst the "dry" cases was 72, that amongst the "moist" cases 60, the average age amongst all these 89 males being 63·6. Nevertheless, the two types are clearly the result of one and the same pathological change.

The changes in the *derma* consisted, in the earlier stage, of a large excess of leucocytes; in the later stages, of a large excess of fibrous tissue.

In most of the fatal cases which were examined after death the lungs revealed intense hypostatic congestion; but, inasmuch as death took place either by asthenia (in most cases) or coma, this is rather to be regarded as part of the latter conditions than as a pathological change proper to the disease.

INFERENCES,
AND REMARKS ON THE NATURE OF THE DISEASE.

In all that has gone before, I have endeavoured to give a true picture of the facts of this strange epidemic; but now, in conclusion, it may not be out of place to inquire what are the inferences to be drawn from these facts; what are the lessons to be learned?

And first, if it be conceded that all of these cases are the result of one pathological cause—one proximate principle or influence—it is interesting to note how different may be the appearances which result, under different circumstances, in different individuals, from one morbid principle. The tendency at the present day seems to be to analyze or separate an old disease into two or more varieties. But this is an opposite process; for the facts mentioned go far to prove *the identity of the two conditions Eczema and Pityriasis rubra.*

Next, let us inquire, What is the nature of this unusual outbreak? I wish at the outset to record my sincere regret that an abler and more experienced observer than myself did not have the advantage of daily observing these cases throughout their whole course; or at any rate that a committee of some learned society was not appointed at an early date to investigate all the circumstances.

The various theories suggested may, I think, be grouped under three heads. 1. Is it an old disease, such as eczema or pityriasis rubra, recurring under a new and epidemic form? 2. Is it a compound disease, such as septic eczema, scarlatinal eczema, or erysipelatous eczema? 3. Is it an altogether new disease which has never visited this country before?

It has been said by high authorities* that there is nothing very new in the disease excepting the occurrence of so large a number of cases in one place, and that this is explained by the fact of so many aged and sick being collected. But with great deference I would point out, first, that the occurrence of 163 cases at one time and in one place of any disease not hitherto regarded as contagious is of itself sufficiently new and startling; and secondly, that the aged sick of London have been collected into workhouse infirmaries ever since the year 1867, and how is it that a similar epidemic has never been known before? The average age of the inmates in the Paddington Infirmary is probably lower than any other, because most of the infirm cases are selected and transferred to the adjacent workhouse sick-wards; and yet this infirmary is selected for its chief manifestation!

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* *E.g.*, Mr. Jonathan Hutchinson, *Archives of Surgery*, October, 1891, and January, 1892.

Moreover, the disease was by no means confined to the sick and aged; patients such as M. XXV., M. XXXI., M. XXXIII., M. LIV., and others, who were all in prime manhood and health, and who had come in for unimportant complaints, were smitten shortly after admission with most severe attacks, and one of them, only forty-nine years of age, died.

Mr. Malcolm Morris* has made the valuable suggestion that the disease was *contagious* eczema, taking on the severe and lethal form of pityriasis rubra by reason of the age and debility of the patients. But such a theory does not explain the definite course through which the disease ran, and the other phenomena of the epidemic, especially those just mentioned, and others of a similar kind. Moreover, if it be eczema in any form it should obey the laws of that disease. But it does not; for children were almost exempt; most of the gouty patients who were attacked (*e.g.*, M. XXIX.) had the disease in a mild form; and several gouty folk escaped altogether. Cases M. I. and M. V. had acute general eczema and recovered, but when they contracted the contagious dermatitis they died; other patients (*e.g.*, M. I., IV., and XII.) had both diseases consecutively, and recovered; and all of these illustrated well the difference between the two diseases, occurring, as they did, in the same individuals.

The differences between the disease under consideration and both eczema and pityriasis rubra have been indicated in the body of this paper, and it seems to me difficult to make all the features of the epidemic coincide with these, or indeed with any other known disease. Dr. Lees, under whose care four cases,† (one of them fatal) occurred at St. Mary's Hospital, writes, "Whatever the disease is, it is not eczema"; and Dr. Stephen Mackenzie has remarked‡ that in his experience the epidemic was unique.

Next, let us consider the second question, is the disease a compound one? The suggestion that it might be eczema compounded with a *septic element* is possibly favoured by the occurrence of boils and bubos with which some of the patients suffered.

That it might be *Scarlatinal Eczema* is favoured by the extensive exfoliation, the constant and pathognomonic feature of all the cases, which occurred to an extent that is only equalled in scarlet fever and pityriasis rubra. In a case communicated to me by Mr. Turner, of the Western General Dispensary, and which, through his kindness, I had the opportunity of seeing, a child of the patient was removed with scarlatina just at the time the father, a man about 35 years of age, became affected with the contagious dermatitis.* But the usual absence of pyrexia, and the immunity of the young, are alone almost sufficient to negative this supposition.

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* Discussion at the Harveian Society, January 7, 1892 (vide *Lancet*, Jan. 12, 1892).

† *Lancet*, August 15, 1891.

‡ Discussion at Medical Society, November 30, 1891,

That the disease was *erysipelatous eczema* is a view favoured by Mr. Hutchinson† and Mr. Startin,‡ and is a theory which has much to recommend it; though here again the absence of pyrexia and the usually gradual advent are hard to explain. Each of these suggestions is plausible. Their proof or disproof will probably form part of the future history of bacteriology. That compound diseases should occur seems far from unlikely; indeed, it seems almost necessary for a true conception of the evolution of species. But if this be the true explanation it is to that extent a new disease, albeit a compound one.§

Whether the disease is one which has been known in other countries, and is new to this, is a matter on which information is still wanting.

In the meantime, there is a point of interest worth consideration. *Have we here to do with a local disease giving rise to secondary constitutional manifestation, or a general disorder having secondary local effects?* was a question constantly present in my mind; and it seemed at first that whereas one theory explained one set of cases, the other explained another set. But at length the reason for this discrepancy became apparent. It depended entirely on the stage which the case under observation had reached. The majority of the cases started with a slight eruption which gradually faded away a few days later, but then, taking on fresh action, broke out with redoubled vigour. In this preliminary stage the rash was usually asymmetrical, and the constitutional symptoms slight or absent; in the fully established disease the rash was symmetrical, and the general disturbance marked. I have already

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* The patient was shown at the Harveian Society on January 17th, 1892.

† *Archives of Surgery*, January, 1892, p. 222.

‡ Discussion at the Medical Society, November 30th, 1892.

§ This question is referred to in an address by Mr. Hutchinson "On the Laws of Contagion from a Clinical Standpoint."—*Medical Chronicle*, November, 1891.

(p. 61 *ante*) given reasons for supposing that the disease was due to a microbe, which, lighting on the skin, set up irritation there, and by that means gained entrance into the blood. Here, then, is another fact in keeping with this hypothesis, for during the preliminary stage, while the microbe sets up local irritation only, the disease corresponds to a local malady; and then, when the microbe gains entrance into the blood, the disease takes a fresh start, progresses with redoubled vigour, and corresponds to a constitutional malady, due to a poison in the blood, which determines secondarily symmetrical local lesions in the skin. This hypothesis seemed to me to adequately explain the phenomena of all the cases. Those in which the preliminary stage was absent were symmetrical from the commencement, and the constitutional symptoms were observed at once, or even in some instances before the rash appeared. In these it was obvious that the microbe gained, by some means (possibly the alimentary canal in M. XI., XXXV., and XXXVIII.), immediate access to the blood. The absolute experimental proof of this hypothesis would rest in the constant presence of the characteristic diplococcus in the skin and exudation, but its absence from the blood and organs, in the preliminary stage; and its equally constant presence in both skin and blood in the fully established disease. It receives clinical illustration in M. II. and many other cases; indeed, nearly all the cases present features difficult of explanation without this hypothesis.

NOSOLOGY OF THE DISEASE.

In the absence of any other, I would suggest the title "Exfoliative Epidemic Dermatitis" as a name for the disease. This at least has the merit of describing its salient features without implying any theory; though, on the other hand, it may be said to be not sufficiently distinctive from other exfoliative disorders. In the Infirmary records the disease was classed as "*Epidemic Eczema,*" on account of the first impression produced by the disease; and the term was afterwards preserved in order to obviate confusion.

I am inclined to agree with Dr. Colcott Fox that the disease belongs generally to the Eczematous group, though most of the cases differed from the ordinary type of that complaint in the manner already indicated (p. 58 *ante*). Case M. XXII. and some others bore a very exact resemblance, in their physical characters, to acute vesicular eczema; but even in these, the definite course, the amount of constitutional disturbance, and the special predilection for the aged are important points of distinction.

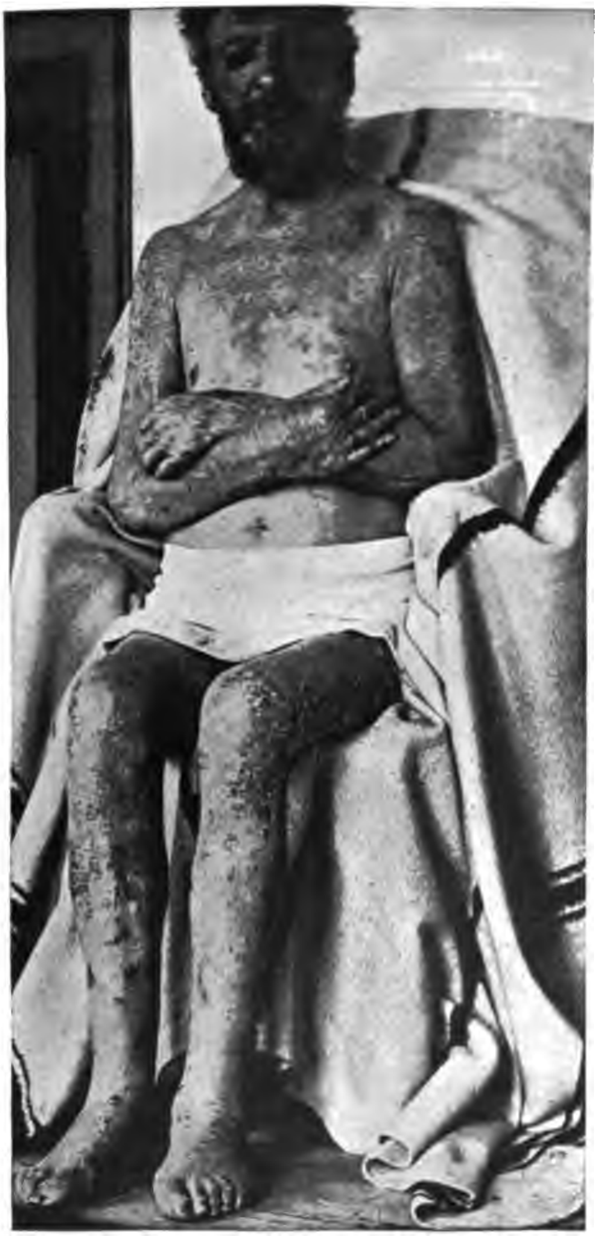
As regards its relation to Pityriasis Rubra, the difficulty exists of this term denoting both a disease *sui generis*, and also the concluding stages of other skin diseases, such as Psoriasis, Lichen Ruber, &c., if they generalize and exfoliate. The pathognomonic feature of exfoliation, present in all the cases, brings the disease into even closer relation with this term than with eczema; but the presence of infiltration, and the definite course, establish a marked distinction.

It will be important to learn whether the specific microbe which Dr. Russell and I have observed in these cases is present in examples of the two disorders just mentioned.

DESCRIPTION OF ILLUSTRATIONS.

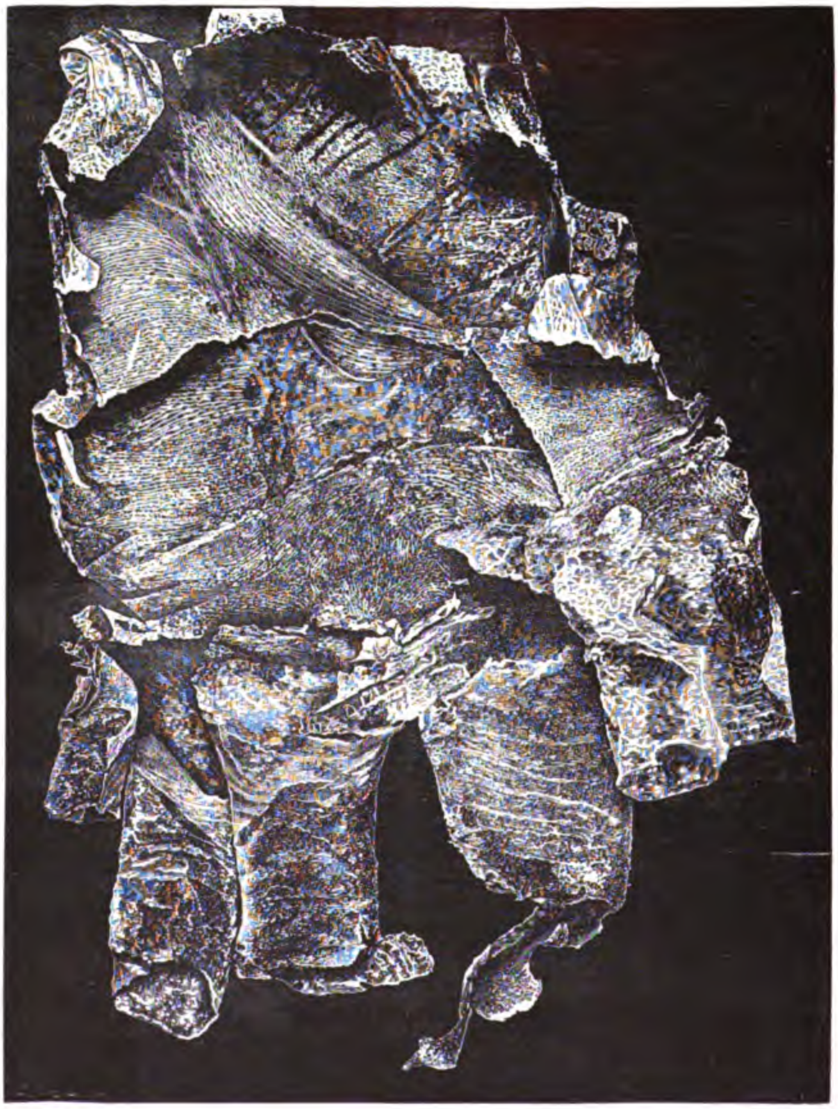
*CASE M. XLV. (Fig. 1) is from a photograph taken on November 16th, of a man named J. G——, æt. 71, a gardener by trade, who had been admitted the previous July for Morbus Coxæ Senilis. He had the skin disease very severely, the primary attack lasting ten-and-a-half weeks, and being followed by two recrudescences, the photo being taken eighteen days from the commencement of the second. This was one of the cases which *commenced as flattened papules or maculæ*, and the eruption preserved this character throughout, though for the most part these became confluent. Scattered maculæ can still be seen on the legs, feet and chest. The cracked, exfoliating flakes can be seen on the arms, forearms and hands, flakes which came off the latter in pieces the size of shillings and half-crowns, elsewhere in fine powder. By close inspection the swollen condition of the face and eyelids, which are half-closed, can be seen. The patient also had severe muco-purulent conjunctivitis. The eruption commenced on the forehead, ears, and neck, and the whole body had at one time or another been involved. It was complicated by a purpuric condition. This case belongs to the "moist" type, for there was a good deal of exudation in parts, especially about the face.

The temperature in this case averaged 98·5°. He had three elevations only to 102°. It was often subnormal in the morning. The constitutional symptoms were slight at first, latterly severe, and consisted chiefly of anorexia and prostration. At one time it seemed doubtful if he would recover. He had some vomiting, but no diarrhœa. Transient albuminuria was noted during the eighth and ninth weeks of the primary attack. The family and previous histories are unimportant, and throw no light on the causation. At the present time the patient is practically convalescent, though still



West, Newman, imp.

A CASE OF EPIDEMIC DERMATITIS (SAVILL).



West, Newman, imp.

CAST OF PALM, FROM A CASE OF EPIDEMIC DERMATITIS (SAVILL).

very weak. It should always be borne in mind that many cases occur of a much slighter degree than this case.

Fig. 2 represents a cast of the entire cuticle of the anterior surface of the hand and fingers of case M. XXV. (a man aged 49). In this case there was very copious formation of vesicles and exudation on the face, trunk, and flexures of the limbs; it was evidently a "moist" type of case. No vesicles were ever visible on his hands, and the only appearance of rash in this position was a uniform redness with tumefaction of the skin. In some cases the cuticle was shed in large flakes like this, sometimes in smaller bran-like scales, and sometimes it took the form of impalpable powder. The hands and feet were always last to exfoliate; and the larger flakes always came from the extremities of the limbs, the smaller from the trunk—facts explained by the epidermis being thicker in the former position.

CASES OF THE EPIDEMIC SKIN DISEASE.

I.—Cases at the Paddington Infirmary.

The following is a summary of the principal facts in the history of those cases which present any feature of interest. To any one who takes peculiar interest in the matter, I shall have great pleasure in showing the detailed notes of the cases as they were taken at the bedside by my colleagues Dr. Hugo, Miss Benson, and myself; as well as the sketches, photographs, flakes of epidermis, pathological and bacteriological specimens; but it is obviously inconvenient and unnecessary to burden this journal with prolix and often irrelevant details; and cases of the ordinary type, presenting no points of interest, will be omitted entirely. The selected cases are arranged more or less in chronological order of date of attack; the earlier cases are less interesting and important than the later ones. *The salient features of each case are indicated by italics.* As far as possible quotations from the notes are allowed to tell their own tale. Photographs were made of those marked with an asterisk (*), and can be had on application to the author.

Male Cases in the New Infirmary.

*Case M. I.—P. R——., æt. 70, a tailor, was admitted to VI ward, bed 4, on January 1st, 1891, on account of Left Hemiplegia, and a severe Burn on the para-

* Full notes of this case are to be found in the *Brit. Journal*, Dec. 5th, 1891, p. 1199. A photo was taken of this case in the sixth week of disease, and is obtainable from the author.

lyzed leg. There was no antecedent history of gout or skin disease. He had had "a fit" a few days before, during which the paralysis had come on, and at the same time he had burned his leg against the bars of the fire. The slough separated and the burn healed in due course. *On March* 14th *he was the subject of an attack, which resembled in all respects acute general eczema*, commencing on the back, and rapidly involving the whole of the body. By the middle of July he was nearly well of this, *but on July 28th a drier eruption, attended with more thickening of the skin*, started on the back, and spreading to the abdomen, face, and head, rapidly became general. It began as a papular eruption and went on to exfoliation without much exudation anywhere. The photo, which was taken in the sixth week, shows the extensive exfoliation of the cuticle, and in parts the tumefaction of the skin, though at this time it was beginning to subside. There was a great deal of irritation, and occasionally a feeling of chilliness. The temperature, with few exceptions, was normal or subnormal. Later on he had a localized consolidation of the lung, but he rallied from this, and ultimately died in a state of coma, with suppression of urine. The temperature, in the last seven mornings of life, was subnormal. Duration of eruption nearly twelve weeks. The constitutional symptoms in this case consisted of extreme loss of appetite, so that it was most difficult to get the patient to take even fluid nourishment; and gradually increasing prostration, so that he was scarcely able to move a limb. Towards the end of life the respiration was considerably embarrassed, and the subsultus tendinum was very marked. It is worthy of note, that *although the patient suffered from left hemiparesis, the two sides of the body were pretty equally involved in the rash.*

Treatment.—Internally, quinine, stimulants, benzoate of ammonia. *He rallied considerably, when put on whiskey.* Externally, ung. ox. zinc., lot. calaminæ, lot creolin, vaseline. No marked effect of any.

At the autopsy, nineteen hours after death, the signs of the pneumonia were discovered in both lungs. The kidneys were fairly normal for his age. The tongue during life had been raw, dry and glossy, all the time, but there had been no vomiting or diarrhœa, nevertheless, *the alimentary canal*, after death, *showed marked signs of disease* in the shape of hæmorrhagic extravasations, in the stomach and along the small intestine.

There was also *a leathery film* covering the mucous membrane, from about the middle of the ileum down to the rectum, which was highly suggestive of a desquamation of the epithelium, similar to that of the epidermis. The mucous membrane itself was also somewhat thickened.

REMARKS.—This case exhibited, in the same individual, the *differences between acute general eczema and the epidemic dermatitis, with both of which the patient was attacked at different times.* And in this case the *internal, as well as the external, surface of the body* was involved in the dermal inflammation; in a word, *all the epiblastic elements.*

M. II.—William B.——, aged 78, a gardener, was admitted into VIII ward, bed 8, on account of Cardio-Vascular Disease, April 13th, 1891, and he died September 14th, 1891. There was no antecedent history of skin disease, gout, or other predisposing cause. In *May*, he was up and about all day, but in the latter part of that month, a dry "eczematous" rash[*] appeared on the arms and legs. It remained in that condition for about eight weeks, and then faded away, no constitutional symptoms attending; but very soon afterwards, *July 28th*, the rash returned, involved other parts, *became much more severe, was purpuric in places, resulted in extensive desquamation*, and after involving the whole body, again faded. This time there was loss of appetite and prostration, so that he had to take to bed. Again he got better; but in August he relapsed, and almost the whole body was simultaneously affected with a papular eruption, at first discrete, and then becoming erythemato-papular, with considerable thickening of the skin, which had not occurred in the two previous attacks.

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[*] Inverted commas always indicate quotation from the notes.

This went on to profuse exfoliation, with, here and there, the formation of vesicles and exudation. The hair came out, the nails were affected, the appetite was lost, and the prostration extreme. The crimson skin continually shed its epidermis, the eyes were severely inflamed; and we knew by the fibrillar twitchings of the muscles, the embarrassed respiration without pulmonary signs, and the low temperature, that the end was approaching.

The rash had almost cleared up when this patient died. The fatal termination was the result of the extreme prostration. It occurred somewhat suddenly, and was finally produced by cardiac failure, the mind being quite clear up to the end.

Autopsy made twelve hours after death. All the middle-sized and smaller arteries, except those of the brain, were considerably thickened. The heart weighed 19 ozs., and though its wall was thicker than natural, the cavities were dilated, and the substance degenerated; facts which accounted for the sudden mode of death. Lungs, congested; spleen, normal; kidneys, 4½ and 5 ozs., healthy.

This patient, like the preceding, was the subject of what seemed to be *an attack of acute general eczema, followed by severe epidemic dermatitis*, differing from the first in the extensive induration of skin, the purpuric basis, and the severity of the constitutional symptoms, which terminated fatally. *It illustrates the distinction between the two diseases.*

CASE M. III.—Alfred P——, aged 53, a photographer, was admitted into VII ward, bed 3, on October 20th, 1890, on account of Blenorrhagic Arthritis, and Aortic Disease. He had suffered from the former for thirty-five years, having had fifteen acute attacks, and the consequence was, extreme distortion of all the joints. Though extremely intelligent, he was an undersized, ill-developed man at best; but his skin had always been white, smooth, and free from any affection; he was in very fair general health, and getting up and about daily, when in *June*, 1891, a slight roughness was observed on the forehead and elbows; here the skin soon became reddened, infiltrated, and raised above the surrounding parts, and the surface was scaly. Towards the end of *June*, the patient had some coryza and nasal catarrh. On the *30th* of *June*, scattered papules appeared on the backs of the arms, fore arms, and hands, accompanied by slight itching. The papules soon blended, and formed patches covered by scales, and a considerable area of the body was involved, fresh patches appearing as the old got better.

August 6th.—Patient says that "*the skin eruption gets better and then worse; each fresh attack is preceded by coryza.*" There was a good deal of thickening of the skin in parts, and exudation in places.

By *August 14th*, a general improvement in skin condition took place. The primary attack lasted five weeks, but he had five or six relapses. It was followed by considerable pigmentation and loss of hair. There was a good deal of burning and irritation, but the constitutional disturbance was slight, so that he was able to get up all the time. This was a moist type of case of moderate severity. There was some anorexia and nausea, and once (October 9th) a trace of albumen.

Treatment.—Liq. arsen., ung. diachylon, lot. creoline, ung. lan. cum creol., ung. zinc., vaseline. The latter allayed the irritation; so also did soda-baths.

Altogether the disease was on him for six months; and those who hold that *the disease is connected with influenza will be interested to hear that the commencement of each of the relapses in this case was attended by coryza,* running from eyes and nose.

Case M. IV.—John W ——, æt. 50, a labourer, was admitted into V ward, bed 28, on September 16th, 1889, for Eczema of the Hands, which he had off and on for seven years, and which he continued to have, in spite of all treatment, *up to the time he contracted the epidemic malady in June* 1891. The only remedy which had done him any good was ung. hyd. am. cum carb. deterg.

The eczema had always been confined strictly to the hands, but about the middle of *June it was noted that he "felt rather sick and languid"; and a few days later "eczematous" patches appeared on the face.* From the face and head, it spread nearly over the whole body, and, after lasting eight weeks, began to fade. The eruption was essentially vesicular, and when seen by Dr. Colcott Fox, *at an early stage,* was said to be *indistinguishable from acute general eczema.*

In the later stages of the disease there was a good deal of swelling of the legs, but the thickening elsewhere was moderate. Beyond the sickness and headache, the constitutional symptoms were slight. He had three relapses, some loss of hair, and pigmentation, following the rash; the last relapse was *attended by shooting pains in the legs,* and extensive exfoliation. The rash was noted on *September 21st* as "spreading by slight raised pin's-head spots, scaling on the top—which blend to form scaly patches—chiefly on extensor surfaces."

The epidemic malady seemed to cure his hands, for these were the first parts to get well, and have remained so ever since. The treatment of localized eczema of the hands need not be mentioned. At the present time (December 1891), he says he has never been so well for seven years. The epidemic skin condition was treated by ung. zinc., lot. plumbi cum opio, lot. calaminæ, ung. creolin., liq. arsen. *Cultivations of the characteristic microbe were obtained from the serum (obtained by pricking the skin) and exudation in this case.*

Case M. V.—John S——, æt. 64, a bricklayer, was admitted to V ward, bed 25, on August 9th, 1890, for Cataract and Granular Kidney. He was feeble, even for his age, but the cataract was successfully removed on August 16th, 1890. He had had gout for thirty years, and an attack of eczema in July, 1890. In December, 1890, he had had an attack of skin disease, described as consisting of "eczematous reddened patches, scaly and itching on the head, neck, legs, and back, lasting about three weeks; which was followed by acute gout in the right hand and elbow." In May, 1891, the right hand again suffered from gout.

At the beginning of *June* 1891, the patient was in fairly good general health, getting up daily; and although troubled from time to time with symptoms of Chronic Bright's Disease, he remained well until *July 10th*, when a papular eruption made its appearance *on the back*, and soon spread to the legs, face, and rest of the body. It was very irritating, and there was a good deal of thickening and exfoliation. By the *20th of July*, the dermatitis had become universal. The feet and legs were swollen and red. Patient had become much weaker, wandered a great deal, and had double incontinence. The temperature at night had been slightly elevated (99·4°). *July 27th.*—Diarrhœa came on. The patient was rapidly losing flesh, the skin was deep red, and exfoliating. There was no exudation at any time. The hair had rapidly thinned, so that the patient was almost bald. The skin of the arms was indurated, and the feet and legs pitted deeply on pressure. He became very drowsy and then unconscious. There were no convulsions at any time. The respirations were frequent, and of a Cheyne-Stokes type. Sordes accumulated round the teeth, and the patient died comatose, on *July 29th*, after suffering from the dermatitis five and a half weeks. Treatment: Liq. arsen., lot. plumb cum opio, which allayed the inflammation of the legs considerably.

Autopsy made twenty-three hours after death. Heart considerably hypertrophied and firm. Lungs, fibrous and emphysematous in parts; congestion and œdema at the bases; liver and spleen, normal; kidneys weighed only two and a half ounces each, and were in an advanced granular condition; brain, excess of fluid on surface; convolutions wasted; small localized softenings in the interior.

The previous condition of the kidneys undoubtedly contributed to the fatal issue, but the immediate cause of death was unquestionably the dermatitis. Here again is a case illustrating the difference between ordinary eczema from which the patient frequently suffered and recovered, and the epidemic dermatitis from which he died.

CASE M. VI.—Richard J——, æt. 75, a tailor, was admitted into VI ward, bed 12, on September 2nd, 1890, for Bronchitis and Emphysema. In June, 1891, he was in fairly good health, getting up daily. He had an enlarged prostate, but the urine was normal in all respects. On *June 7th* some redness was noted on the outer side of the left fore-arm, and the surface was scaly; three days later the eruption became papular, and the upper arm was similarly affected. The eruption spread, and on the *17th* the following note was made :—"Exudation at flexure of l. elbow; the l. arm swollen, and red where it is affected by eruption; desquamation furfuraceous. Some eruption across backs of shoulders; none elsewhere. Head scurfy." *After lasting three weeks, the eruption gradually faded* never having spread beyond the above area. *July 28th.*—A severe attack of bronchitis supervened; patient became very cyanosed, had dropsy, and a faint trace of albumen in the urine.

The eruption had never quite disappeared, and on *October 18th* he had a relapse; fresh patches appeared on the back and thighs, papular at first, and then desquamating. *Hitherto it had been localised to one side, but now, as it spread, it involved both sides symmetrically.* A week or two later the skin recovered its normal condition. The dermatitis was never very severe, and never became quite general. The albuminuria and constitutional symptoms were probably due to the severe attack of bronchitis. He was treated in the first attack, which lasted three weeks, with zinc ointment; the second attack, with ung. creol., and it appeared to *get rapidly well under this.* In December the patient had another severe attack of bronchitis, and died. After death, advanced cardiovascular changes were discovered, but *the kidneys were healthy, except for congestion.*

CASE M. VIII.—Thomas S——, æt. 72, was admitted into VI ward, bed 28, June 24th, 1890, for Stricture of the Urethra and Acute Cystitis. He had previously suffered from gout on several occasions, and had also had attacks of gouty eczema of the legs, with one of which he was admitted. It was not until a year after admission that he, being at that time fairly free from the troubles just mentioned, and being up and about, was attacked with the epidemic malady. He had, it is true, never been entirely free from a slightly eczematous condition of the legs, and this became worse in the early part of July, when the epidemic was prevalent.

On *July* 18*th* it was noted that the eruption had spread, by continuity, to the body, scrotum, and arms. It came out in these places as a papular rash, with a moderate amount of thickening of the skin, and some exudation. There was a good deal of irritation and desquamation. In the early part of *August* the eruption was noted as gone, only staining remained, but the weakness from which he had suffered all along increased, and he had attacks of giddiness, albeit in bed. During his illness he had felt sick, and occasionally vomited. *September* 8*th.*—"Staining still present on legs, but no eruption elsewhere. Exfoliation of feet. Weakness profound — reels — feels 'sinking through the bed.' Pulse extremely weak. No vomiting since last week. Appetite completely absent. No diarrhœa." The urine had from time to time contained a cloud of albumen; possibly coming from the bladder, for it often contained pus. *September* 16*th.*—"Diarrhœa has come on last few days, and patient profoundly weak, though the eruption has gone. Was in his usual condition yesterday, and died somewhat suddenly this morning, without previous change or warning." The temperature was usually subnormal throughout the skin disease. Once or twice it was 99·4°. Duration was eight weeks. *Treatment.*—Calamine and zinc ointment; Calamine lotion—the former being more efficacious. No internal treatment directed to the rash. Towards the end of life he was strange in his manner at night.

Autopsy eight hours after death. Early granular kidney. Cardiac hypertrophy. Atheroma of coronary arteries. The muscular substance of the heart was somewhat friable, and the *calcareous change in the coronary arteries probably caused the sudden death.*

It is worthy of note that the rash had cleared up some fourteen days before death. *This patient had frequently suffered from ordinary local eczema without serious inconvenience; but the epidemic dermatitis proved fatal by its constitutional disturbance, which was considerable, though the eruption was moderate. This is one of the few cases where the eruption started from a patch of chronic eczema.*

CASE M. IX.—Jesse T——, æt. 49, was admitted into V ward, bed 19, on April 22nd, 1890, with Charcot's joint disease. He had enlargement of the left knee-joint, crises gastriques, and doubtful pupillary signs. He was in his usual health in *June*, when a dry eczematous rash was noted (29th) on his face, which rapidly spread to the neck, back, arms, and hands; in places it was blotchy, and in places papular. During *July* the rash was never very extensive, and seemed as though it would get better; but at the beginning of *August* it took on fresh activity. *August* 11*th.*—"Feet, legs, and thighs considerably swollen, pit deeply, covered irregularly with desquamating red patches. Eruption universal; scales small and thin; back similarly affected, except central part, which is free. *A good many round patches fading in centre and spreading at margins* on sides and shoulders. Front of trunk furfuraceous, redness having faded; very little exudation, except at flexures. Skin of arms a good deal thickened, and especially over hands; here and there a good many deep fissures. Face almost recovered. Vomits occasionally, but less during last month than before. Appetite poor, prostration considerable. *August 18th.*—"Relapse on face. On legs rash is not vesicular, nor papular, but *consists of reddened patches with well-defined raised margins of a serpiginous character.*" In the latter part of the case the patient had three attacks of dyspnœa, lasting ten to twenty minutes, the cause of which was not obvious. Towards the middle or end of *September* the rash faded, having lasted about ten weeks, leaving otorrhœa, pigmentation, and a good deal of irritation of the skin. Finally he recovered.

The temperature in this case was interesting. Generally subnormal in the morning, and about 99° in the evening, with one rise to 102° (August 10th). But during the latter part of the case, and for a long time afterwards, the temperature was subnormal, both morning and evening, often as low as 96°.

Case M. X.—William H——, æt 75, was admitted into V ward, bed 12, on April 18th, 1890, on account of senile Cardio-Vascular Disease, which was attended by attacks of giddiness, irregularity of pulse, feebleness of health, and other symptoms referable to that disorder. He used to get up of a day, although he suffered a good deal from headache and vertigo. On the *16th June*, 1891, the urine was noted as acid clear, sp. gr. 10.12, and, for the first time, a very faint trace of albumen was found. On the *23rd June* it was noted that he *had become weaker of late, and that he took food badly* (the diet at the time was beef-tea); and on *June 25th* there was noticed for the first time a slight eruption "like dry squamous eczema," very little reddened, on the arm, face, and still less on the legs and back. This remained, with no noticeable change, for some time. During *July* the eruption became worse, more crimson, the papules being headed with little flakes, covering the whole surface of the back, abdomen, chest and arms. The face meanwhile, which had been first attacked, got a little better. But the hair had been considerably thinned; the eyes were the seat of conjunctivitis, and wherever the eruption had been *deep pigmentation remained.* The weakness had been extreme; there had been vomiting and diarrhœa; the tongue, at first furred, had become red, dry, and cracked; and the patient refused all food. The urine frequently contained albumen. In the first week of *August* he had a relapse. A few scattered patches, formed by the aggregation of small conical papules, came out on the face and legs, *stained with purpura, and each papule was crowned with a minute scale.* By *August 15th the eruption had almost gone,* only a little desquamation remaining, but the patient had become progressively weaker, the anorexia more and more marked, drowsiness supervened, and he died on *August 28th.*

Here, as in a few others, *there was a premonitory stage. The temperature was subnormal throughout,* except on three occasions, when it reached the normal line. *In this case the skin lesion was never quite general;* and the thickening and desquamation were only *moderate,* but the *constitutional symptoms were very severe,* and ultimately fatal. Towards the end *the lips and muscles were tremulous, and the respiration shallow and irregular.* The patient became restless at night, then drowsy, and died. The urine contained albumen throughout, sometimes in measurable quantities (August 21st ⅛th). Duration of illness seven or eight weeks, though the rash did not last so long.

Autopsy, made seventy-two hours after death: Heart fatty and considerably dilated; lungs fairly normal, excepting for some quiescent tubercular deposit at apices; liver somewhat cirrhosed; kidneys weighed three and a half ounces each, appeared healthy to the naked eye, excepting for congestion; brain natural.

CASE M. XI.—George H——, æt. 71, was admitted into VIII ward, bed 19, on December 15th, 1890, with Cardio-Valvular Disease. Murmurs referable to both orifices. Urine acid, sp. gr. 1014—faint cloud of albumen. There was also some œdema of the ankles when he got up.

At the beginning of *June*, 1891, he had much improved, and was in fairly good health. *On June 20th he vomited after breakfast*, complained of loss of appetite and malaise during the succeeding days. About ten days later a slightly reddened squamous condition was observed, on the back at first, then on the chest and limbs. This rapidly increased, and the inflammation became more severe. *July 9th.*—"Patient not so well lately,—sleeps through the greater part of the day; left hand and right arm twitch in sleep." *July 11th.*—"General redness and desquamation in moderate-sized scales on the limbs and upper half of body. Skin over lower half of body is now deep red, evenly raised and furfuraceous, with outlying, rounded, raised blotches; the margins of all the raised parts being well defined." *July 12th.*—"Dermal inflammation appears to be subsiding, and the surface scaling more freely." *July 13th.*—"Diarrhœa six times in twenty-four hours. Patient worse this morning; sleeping heavily; almost unconscious; difficult to rouse. Twitches the right arm and head now and then. Heart's action rapid, irregular, and feeble. Mucous râles in chest. Died this evening." Temperature slightly elevated all the time. Average about 98·4° in the morning, and 99° in the evening. *Treatment.*—Unimportant and unavailing.

The dermatitis in this case was erythematous at the onset, and dry throughout. The anorexia and asthenia were pronounced; he had both vomiting and diarrhœa severely. The tongue rapidly became denuded. *The case was marked by great prostration. The duration (two weeks) was briefer than in any other case, excepting M. XV. There were distinct premonitory symptoms referable to the alimentary system. This was followed ten days later by a sudden symmetrical outburst of the eruption, which then ran a rapid and fatal course.* Even here the temperature was very little elevated. It seemed as though *the poison was introduced into the system by means of the alimentary canal, for during the ten days' preliminary stage, when, in other cases, the eruption is asymmetrical and fades away, this patient had vomiting and loss of appetite.* Unfortunately in my absence an autopsy was not made.

CASE M. XII.—Thomas R——, æt. 53, was admitted to V ward, bed 29, on March 19th, 1890, for an attack of acute gout. After a time he got well of this, but remained under treatment for syphilitic glossitis. Nevertheless, he was up and about, in very fair health. He had his first attack of ordinary Eczema while in the infirmary, in March, 1891, on back of neck, right forearm, and left leg. This was noted as well in April, 1891. On *June 2nd* he had *an attack somewhat resembling influenza*, "had aching pains about him, shivered between midnight and 4 A.M. Temperature at 7.30, 103·4°; pulse, 112°. *June 3rd.*—Still complains of pains all over. No physical signs. Slight coryza, which he has had for some days." He had had similar attacks of unexplained pyrexia on several previous occasions while under observation, the temperature going up to

104°. He was well in a day or two, and it was not till a month later (*July 3rd*) that the epidemic eruption started simultaneously on his hand, arm, and legs (places formerly affected with ordinary gouty eczema). Without becoming quite general, the rash almost died away in two to three weeks; but then it took a fresh start, became general, though always most severe in the places first attacked, *attended by considerable thickening of skin*, profuse exudation, pain, irritation, *albuminuria, anorexia, and with so much weakness* that he took to bed. Later on, *purpuric spots* appeared on the legs. This severe attack lasted altogether about eight weeks (August 3rd to October 5th); and then both the epidemic malady and the antecedent gouty eczema disappeared together, the entire skin becoming healthy. The temperature throughout the epidemic attack was normal or subnormal. It was *followed by pigmentation, splitting of nails, and loss of hair.* Some interesting diagrams were made of this case by Miss Annette Benson, showing the advancing border of the eruption as it spread by continuity to other parts. This is one of the few cases which *exhibited premonitory symptoms*, though it is not quite certain if they were definitely connected with the epidemic malady. They occurred a month before its advent; they resembled influenza, and the patient—a gouty one—had presented similar symptoms before. *The case well illustrated the preliminary, abortive, stage of the disease which was so common; and, more important still, it illustrated the marked difference between two diseases, occurring at different times in the same individual, viz., ordinary Gouty Eczema and the Epidemic Dermatitis.*

*CASE M. XIII.—Joseph D—— is the case narrated at the commencement of the paper (p. 37, *ante*).

CASE M. XIV.—Geo. H——, æt. 82, was admitted into VI ward, bed 18, on November 25th, 1890, with Bronchitis, dilated right heart, and double rupture. He had never had any skin affection before. He was a feeble old man, though up and about daily. On *July 4th* the eruption started with papules on the hands, arm and face, and rapidly spread to other parts. Nine days later it got a little better, but only to renew its attack with redoubled vigour. On the 30th day (*August 3rd*) "no part of the surface free from eruption. *Tongue also desquamating*, red, and raw. Conjunctivæ red; semipurulent discharge. Skin of face very tender." The dermal inflammation was very acute in this case; anorexia and prostration extreme. By 34th day albuminuria appeared, and the exudation which had formerly existed ceased. On 35th day a sketch was made of one leg, and the case was seen by Mr. Hutchinson, who said it was then like typical pityriasis rubra. *August 18th* (40th day):—"Has been very low all day. Sordes on lips and tongue; hands twitch constantly; breathing rapid; skin feels hot; has double incontinence; exhales a bad odour. *Temperature, which has all along been normal or subnormal, has been gradually going up to* 101·4°." Next day he died, six weeks from the commencement of the disease. At the autopsy, made thirty-six hours after death, the heart wall was found to be degenerated, but the other organs were remarkably healthy for his age. The kidneys weighed each three ounces and, beyond intense congestion, were normal. *The case was a very severe one, and death took place by asthenia. This was the only fatal case in which the temperature went up before death. In the others the fatal termination was heralded by a subnormal temperature for several days.*

CASE M. XV.—Joseph P——, æt. 70, was admitted to VIII ward, bed 12, on May 2nd, 1890, for Left Hemiplegia, Cerebral Softening, and Granular Kidney. He was very feeble, both of mind and body, keeping always to his bed. The spark of life was not very bright, and needed but little to extinguish it. This little occurred on *July 4th*, 1891, in the shape of an attack of the dermatitis, which started as an erythemato-squamous rash on the arms, trunk, and leg. There was no exudation, and only slight desquamation. The temperature was not elevated. *The eruption was comparatively trivial, and never became quite general*, but *the weakness was great, and he died, rather suddenly, within a week of the commencement.* The autopsy, made fifteen hours after death, revealed atheroma of the cerebral arteries, "hypermyotrophy" of the systemic arteries, degenerate heart wall, localized intra-cerebral softenings, localized frontal pacchymeningitis, and granular kidneys (2nd stage).

CASE M. XVII.—Henry B——, æt. 71, in whom there seemed to be *a period of incubation*, for he was attacked with vomiting and pyrexia (103°) on June 25th, and the rash did not appear till thirteen days later. It ran its usual course, became complicated with bronchitis, from which he died on the 51st day.

CASE M. XVIII.—William B——, æt. 25, was admitted to V ward, bed 15, May 2nd, 1891, for Paraplegia, probably of syphilitic origin, attended by double incontinence and cystitis. These confined him to bed. He had never had any skin disease before. *The eruption in this case was slight*, of short duration, and never quite general. It began (*July 8th*) as scurfy raised patches of erythema on the arm, ears and forehead. The erythema desquamated, and then subsided at the end of ten days. The only other symptoms were *dryness of the throat, and thirst.* The eruption had disappeared when the patient took his discharge on *July 27th.*

CASE M. XIX.—Charles G——, æt. 70, was admitted to VI ward, bed 13, May 20th, 1891, for Senile Cardio-Vascular changes and incipient Paralysis Agitans. He had never had skin disease or gout. The patient was up all day. In this case also, *although three times the age of the last patient, the eruption was slight.* It began (*July 10th*) as an erythemato-papular rash on the face, which became scurfy, spread to the arms, and lasted for a week or two. By *August 19th* the face was well, but a few scattered papules and desquamating reddened patches appeared on the thighs and legs. *As the legs got better, the trunk and arms were again attacked*, but the whole skin was well by September. Constitutional symptoms slight. Followed by two slight relapses in October and November. Temperature always normal. Treatment: zinc ointment relieved the irritation. *Rapid improvement of each relapse under lot. creolin.*

CASE M. XX. (*A man in perfect health, attacked four days after admission.*)—Edward C——, æt. 83, was admitted to V ward, bed 21, on July 8th, 1891, for severe scalp wound. *Had never had skin disease before.* A slight erythematous desquamating rash first appeared on the face (*July 12th*), *not near the wound*, and spread to the arms. There were moderate irritation, little exudation, fine branny desquamation, very little constitutional disturbance. The rash never became general, and the patient was well at the time of his discharge, two weeks later (July 27th).

Case M. XXI.—Edward K——, æt. 40, was admitted to VII ward, bed 29, on November 26th, 1889, for Paraplegia, due we thought to gumma of the theca vertebralis, which confined him to bed. He had never had any skin disease before. *This case was characterized by its moderate severity and protracted course.* It began (*July 12th*) as an "eczematous" rash in the flexures of the elbow, which spread up the arm to the chest, face, and ears. As these *got better, fresh patches appeared* on the feet and below the knees. The rash reached its maximum in two weeks, and then began to fade. But for a long time different localities took on fresh action. All parts of the body were at one time or another attacked. *August 7th,* "legs and feet covered with thickly-set *purpuric spots,* which soon faded," Slight diarrhœa occasionally; marked anorexia; slight prostration. Irritation considerable. Temperature normal. The disease lasted about seven weeks, *July 12th* to *September 4th,* and *was followed by loss of hair, severe muco-purulent conjunctivitis, and persistent relapsing exudative dermatitis (recurrent eczema) of the face and head,* which continued to the end of December (four months). Treatment: *under lot. creolin the eruption improved everywhere,* excepting the face, to which ung. cal. c̄ zinc was applied without effect.

*Case M. XXII.—James C——, æt. 62, was admitted to V ward, bed 24, on September 2nd, 1890, for a poisoned hand, followed by cellulitis of the *left* arm, and chronic pyæmia. He had never had gout, rheumatism, or skin disease before. At the time of the outbreak, the left arm was being treated by massage to restore its functions, but the disease *began on the other arm* (*r.*) as a profusely exuding papulo-vesicular rash on *July 3rd.* The left arm was attacked a few days later; and the rash afterwards spread by continuity to the neck, trunk, thighs, face, and became general. *The exudation in this case was so profuse that the body and bed-linen were soaked.* The skin was considerably thickened, and the face so swollen as to prevent recognition. As the rash attacked fresh parts, it *spread with a well-marked raised margin,* with outlying papules and vesicles beyond. Coloured sketches were made on successive days, August 11th, 14th, and 17th, showing these features, and the formation of flakes. Anorexia and asthenia were present throughout. No diarrhœa, vomiting, or albuminuria. The primary attack lasted six weeks (*July 3rd* to *August 14th*). *It was followed by no fewer than ten recrudescences,* some local, some general, viz., on August 15th, August 17th, August 31st, September 3rd, September 7th, September 21st, October 8th, October 15th, November 4th, and December 8th. Successive layers of epidermis were thrown off on each of these occasions, and the skin finally presented a brownish parchment-like appearance, which continued to flake or scale in *curiously definite curved lines* running transversely on the arms, and more or less vertically on the trunk. At different times there were muco-purulent conjunctivitis and otorrhœa; and the attack was followed by complete loss of hair and shedding of nails. Finally, the patient *recovered, in consequence no doubt of the moderate severity of the constitutional disturbance,* and the absence of albuminuria.

The temperature chart deserves inspection. In the first two weeks of the disease the temperature was subnormal; in the third it reached 100·4° on two occasions; in the fourth it reached 100·2° on two occasions, and once each 101·2°, 104°, and 103°; in the fifth week it remained normal; sixth week, average 100° at night; seventh week, normal; eighth and ninth week, occasional elevations; tenth and eleventh week, average normal; twelfth and onwards, subnormal in the morning, normal at night. The whole attack lasted nearly twenty weeks (July 3rd to December 12th).

Here, as in several other surgical cases, the eruption did not begin around the wound, nor on the arm that was being rubbed, but on the opposite one. *The eruption was asymmetrical at first, but became symmetrical afterwards.*

CASE M. XXIII.—James L——, æt. 77—a patient in for senile cardio-vascular changes of old age—*suffered from a very severe attack* of the eruption, accompanied by vomiting, albuminuria, collapse, and double incontinence. Nevertheless he *ultimately recovered.*

*CASE M. XXV.—George C——, æt. 49, was admitted on June 25th, 1891, to V ward, bed 6, for synovitis of the right knee. *In other respects he was in excellent health*, and beyond the fact that he had drunk beer rather to excess, and had had what he called "erysipelas" of the left calf some three years before, his previous history had been healthy. By rest, the synovitis greatly improved, and he was commencing to get up. But on *July 22nd* (*four weeks after admission*) the eruption started on the right cheek and forehead. This faded a little, but on *August 1st* scattered papules appeared in a fresh place, *and now symmetrically*, on the fronts of the thighs, and on the *2nd* on the backs of the forearms. The papules became confluent, forming hard congested skin, and the rash gradually spread until by the 25th day it had become general. There were considerable loss of appetite and malaise. Tongue, at first coated, soon became denuded and raw. Infiltration of skin considerable. Eruption at first dry, but the later crops were vesicular, and in some places pustular. Severe muco-purulent conjunctivitis. *Sept. 1st* (40th day of disease), arms, face and left leg a good deal swollen. Purpuric patches front of left leg. *Sept. 4th*, "swelling subsiding, skin burnished red. Prostration profound. Twitchings of muscles. Conscious, but drowsy and stupid. Had three attacks of shivering to-day, not attended by pyrexia. Has vomited occasionally lately. Bowels confined. Tongue raw, red and tender. No albuminuria." Diarrhœa and albuminuria subsequently came on; and patient got gradually worse. *Sept. 11th* (46th day), weakness extreme. Seems to be unable to swallow. Temperature very low. Skin flaking in large pieces. *Sept. 14th*, restless, trying to get out of bed. Half conscious. Can scarcely be roused: will not take anything: sordes. Occasional starts and tremors. *Very offensive smell from patient.*" No change till death on the 16th. The temperature during the first four weeks of the disease was normal or subnormal; in the 5th it rose gradually to 101°, and, after three days' intermissions, fell to normal; in the 7th week it again rose gradually, this time to 103°; it then fell continuously to 96°, and remained oscillating between 96·2° and 97·4° for six days before death. *Treatment.*—At first zinc and starch powder was used, then calamine lot., and lastly creolin lot. The latter seemed to do some good, but it was applied too late to check the disease. He rallied considerably under large doses of stimulants and nutritive enemata, but the effects were not permanent.

Autopsy, twenty-four hours after death. Skin scaling all over. Some pigmentation of arms and legs. Pleuræ, Peritoneum, Pericardium, and Heart (13 ozs.) normal. Lungs (right 21 ozs., left 20 ozs.) congested at bases. Liver (64 ozs.) normal. *Spleen* (*9 ozs.*) *unduly large*, not diffluent. Kidneys (right 5½ ozs., left 6 ozs.) congested, and capsules a little thickened, but strip easily; otherwise natural. *Stomach, petechial ecchymoses; excess of mucus;* no ulceration. *Intestines unduly congested, specially first part of duodenum, no actual breach of surface, but looks like first stage of ulceration. Large excess of mucus.* Mesenteric glands not enlarged. Brain (47 ozs.), meninges opaque and adherent, no other abnormality. Right knee, signs of chronic arthritis.

Here was another man in the prime of manhood, admitted for an unimportant local malady, who, four weeks after admission, contracted the disease, and after a brave fight for fifty-one days, succumbed. This is totally unlike any known form of eczema.

CASE M. XXVI.—William M——, æt. 42, was admitted to VII ward, bed 25, on April 28th, 1891, for ulcer of leg. The eruption started (*July 22nd*) *not on the leg*, but on his ear and cheek. It was quite dry, very trivial, and died *away in the course of a week;* but on August 1st fresh papules appeared on both arms (*symmetrically and simultaneously this time*); then the face again took on fresh action, but the eruption never spread beyond these areæ. *August 7th* (16th day).—"The rash is dry and formed of *papules, which are mostly headed by fine scales.* At the flexures raised patches have been formed, which are desquamating. Whole of face and ears are reddened and furfuraceous, scales rather thicker than elsewhere. Ears were discharging up to four days ago; no other part wet." There was no elevation of temperature, nor other marked constitutional signs, and he was discharged well on August 19th, *having been ill for four weeks.*

CASE M. XXVII.—George G——, æt. 72, was admitted to VI ward, bed 16, on November 16th, 1890, for Paraplegia of long duration, which had confined him to bed for twenty years. He was very sadly in May and June, 1891, being troubled from time to time with diarrhœa, vomiting, feelings of faintness, occasional attacks of Cheyne-Stokes respiration, and a trace of albumen in the urine. He was getting much better, when, during the first week in *July*, "dry scaly patches" were noticed on the elbow. This eruption was very trivial and almost escaped notice, till three weeks later (23rd) *flat, pale, pinkish papules appeared*, scattered all over the trunk, "*blended in places into rounded patches* (*resembling erythema papulatum*): *some fading in the centre, while raised at the edge;* none on face or limbs. Head very scurfy; the eczematous rash on the elbows is more reddened, and there are *outlying papules around.* Examined by lens, the flat papules on trunk seem to be covered by tiny vesicles." Patient so weak that he cannot sit up. The flat papules became confluent, and in the course of the next week or two the eruption spread to the whole body, excepting the face.

August 15th.—Purpura appeared on the hands and legs, and on *August 21st* the diarrhœa, from which he had not suffered since the rash came out, returned for a few days. The patient got *weaker and weaker, fainting on several occasions*, and finally drowsy. But the albuminuria which had existed before the outbreak now disappeared, and the urine was of good specific gravity. In the latter part of August *bed-sores rapidly formed in many places* (eleven at one time). About *August 29th a parotid bubo formed*, and the patient died on September 2nd, apparently of asthenia, five-and-a-half weeks after the real commencement of the epidemic malady. The temperature remained about normal until the parotid bubo formed, and then rose. There were never any rigors or sweating. The *necropsy*, made thirty-six hours after death, revealed adherent pericardium (which accounted for the sudden death), old quiescent tubercle of the lungs, spleen, and heart. The kidneys were congested, but these and the other organs (excepting the spinal cord) were normal. The intestines, unfortunately, were not examined.

CASE M. XXIX.—William C——, æt. 61, was admitted to VII ward, bed 5, on February 11th, 1891, for Gouty Arthritis, chiefly in right elbow, both legs and feet, and peripheral neuritis, which he had on and off for eight years, and which confined him to bed. About *July 26th* the rash appeared as a "redness and slight scaliness behind ear and right side of neck; some infiltration of skin; also a very few papules on back of left forearm." By *August 7th* the latter had quite disappeared, and the former subsided. The rash had quite gone by *August 28th*, but on *October 2nd* a relapse occurred, severe, *though this time symmetrical*, and always limited to the neck, face and head. *October 21st.*—"Eyelids swollen and red; conjunctivæ intensely congested; some phlyctenules beginning. Centre of face free. Patient says, 'Pain is awful.'" This second attack subsided about the middle of November. There was neither albuminuria nor marked constitutional signs. *The early application of lot. creolin seemed to have a very good effect in this case.*

It is worthy of remark that although this patient was intensely gouty, and advanced in years, the attack was only a moderate one. And further, the only parts attacked were those constantly exposed to the air. His right arm was immovable, always covered up, and therefore escaped, but his left arm was free, and this and his neck were attacked by the rash.

CASE M. XXX.—Charles K——, æt. 67, was admitted to VII ward, bed 81, on December 20th, 1890, for necrosis of bones of right foot, which was subsequently amputated. The amputation wound was slow to heal, and he was troubled in May, 1891, with an eczematous condition of the right leg just above the stump. *However, the epidemic eruption did not start here, but on the hand*, as a papulo-erythema; and rapidly, in the course of three days, *attacked other parts of the body in successive isolated centres.* Thus on *July 29th*, from a valuable diagram made by Miss Benson, we learn that the rash existed in twelve separate places on different parts of the trunk and limbs. These appeared as papular, desquamating patches, with little or no exudation. These patches never became confluent, so that the rash was never quite general, and it had faded by *September 10th* (six-and-a-half weeks).

*CASE M. XXXI.—John J——, æt. 40, was admitted to VII ward, bed 22, on July 21st, 1891, for stricture urethræ, for which he had been several times previously under treatment. His stricture easily allowed a No. 4 to pass even when he came in, and was really a very trivial affair. He had never had any affection of the skin in his life; and he was in other respects *in perfect health. But two days after coming into the infirmary*, into a ward where there were several cases of the epidemic malady, he developed a papular scurfy eruption on his forehead and face; then, a few days later, on the backs of both hands. *August 7th* (11th day).—"Eruption on hands and arms, *very like urticaria;* smaller papules blend into larger ones. *It comes and goes.* The rash subsequently spread to back and legs, and then, in the latter part of August, improved." *September 2nd.*—"Yesterday face again became affected, now red, thickened, and scurfy. Moisture at sides of nose and behind ears." *September 11th.*—"Feels weak and ill. Rash spread to chest, which has hitherto been the only part free. *Eruption now general after six-and-a-half weeks' course.*" *September 14th.*—"Distinct turn for the better. Swelling gone down, arms almost natural colour. Much exudation from back of neck." *September 16th.*—"Legs have been covered with a crop of vesicles for several days; to-day feet swollen. There has been more exudation from neck than elsewhere from the first. *Complains of cramps and shooting pains in the hands, feet, and legs. Urine normal. Irritation great. Sleepless.*" *September 24th.*—"Still cannot sleep." *October 2nd.*—"Skin improving; but *nervous irritability great. Cannot sleep. Starts at every slight sound; seems hyperæsthetic. Complains that both hands feel numb, and half powerless; cannot fully flex or extend fingers:* feet natural. Pulse low tension, regular, rather frequent. Urine, acid, 1009, pale, no albumen. No vomiting; no diarrhœa." *October 15th.*—"Skin drying up. Has abscess in left axilla." The skin was still rather red and shedding its epidermis, though the patient was better in himself when he took his discharge on *October 23rd.* Creolin ointment was applied, but too late in the case to be of much use. Sulphur ointment seemed to do some good. The attack was followed by considerable loss of hair.

The eruption in this case was severe and *relapsed in one part before another part was well.* The primary attack may be said to have lasted five or six weeks, but the face, after getting almost well, relapsed before the legs had recovered from the first attack. But a more important feature in the case is the fact that *a strong healthy man should contract the disease two days after admission for a trivial condition. The unusual amount of nervous irritability is also a noteworthy fact.*

CASE XXXV.—William U——, æt. 55, admitted on November 17th, 1890, to VI ward, bed 19, for Chronic Bronchitis and Dilated Heart. There was a history of former eczema on the legs. Albumen was present in the urine on admission and never disappeared. The eruption was *heralded in July by diarrhœa* extending over some weeks, and *latterly vomiting.* It began, *July 26th,* with papules on the arms, and rapidly became general. The diarrhœa and vomiting stopped as soon as the rash was fully established. It ran the usual course and terminated after nine-and-a-half weeks on *October 9th.* But it relapsed *November 2nd.*—"More papules over back and abdomen. Skin very hyperæmic and thickened. Some exudation over abdomen. Dried exudation over buttock. Scalp still crusted." *November 4th.*—A little muco-pus discharged from eyes. Evening temperature 100°. Pulse 120°. Breathing laboured. Bronchitis." *November 14th.*—"Skin almost well. This morning *grasp of left hand very weak. Can only just raise left arm:* left leg natural. No left facial paresis. The weakness of the left hand and arm continued until the end of November. The bronchitis and albuminuria and cyanosis increased, and the patient died December 26th of the pulmonary complication." Temperature all along was normal, excepting once, as noted. Otorrhœa, enlarged inguinal glands, marked pigmentation and loss of hair followed the rash. Necropsy six hours after death revealed extensive bronchitis and emphysema. Kidneys (right 5 ozs., left 5½ ozs.) intensely congested, but otherwise normal. Heart dilated and degenerated. All the organs were congested.

The course of this case, like M. XI., *was very suggestive of the poison being introduced through the alimentary canal. The weakness of the left hand and arm was a curious and unexplained complication.*

Case M. XXXVI.—William M——, æt. 63, admitted to V ward, bed No. 11, on January 28th, 1890, on account of Granular Kidney, Hemiplegia with Aphasia, and persistent Cephalalgia. These ailments confined him to bed. The points of interest in his case were, *the ringed character of eruption, the marked efficacy of germicides, and the fact of recovery in spite of renal complication.* There was no previous history of skin disease. The eruption started on *July 28th*, 1891, as flat papules on the left forearm. Here it remained for some time. *August 10th*,—vesicular patches on right thigh, and patches soon appeared all over the body, raised, scaly, with scanty exudation. It subsided by *September 15th*, but about *October 1st* he had a relapse, and this time, as the papules enlarged, they became *more distinctly ringed* than on the former occasion—"margin raised and redder than centre, which is depressed and scaly" (note of October 13th). The eruption this time was confined to the left arm. *October 21st.*—"Rings a little larger, more defined and raised, and scales a little thicker. Two fresh spots to-day." *October 27th.*—"*All the patches were steadily increasing, had increased to twice the size. Carbolic lotion* (1 *in* 20) *applied for one day* (*October* 21*st*) *checked them. They are now rapidly fading under ung. sulph., which has been applied since October 22nd.*" In November he had a second relapse with the same kind of ringed patches, *and the same treatment was again efficacious. The eruption all along was worse on the healthy than on the paralysed side.*

Case M. XXXVII.—Thomas C——, æt. 58, was admitted to VII ward, bed 20, on January 26th, 1891, with Ulcer of the leg. The eruption, however, did *not begin around the ulcer, but symmetrically on both knees* (*August 1st*). It afterwards affected the legs, feet, arms, hands and face, but was never quite general. There was intense local irritation, but the constitutional symptoms were moderate. There were several relapses, and the eruption was *succeeded by marked pigmentation, glandular abscesses and boils.*

Case M. XXXVIII.—John P——, æt. 65, was admitted to VI ward, bed 1, on December 2nd, 1889, on account of Rheumatoid Arthritis of both hips and knees. In other respects he was in very good health, and he was up and about all day. The viscera were noted as normal, and this was confirmed at the autopsy. This patient, like case M. XXVII., was *troubled with vomiting and diarrhœa for some time* (June 9th to August 4th), *before the appearance of the eruption.* The urine was normal. The eruption appeared on *August 4th* on the hands, and three days later on the neck and legs; in the latter position *accompanied by purpura.* It rapidly spread to the scalp and other parts, and on *August 12th*, only one week after commencement, the hair was being rapidly shed.

The rash never became quite general, and the dermatitis was moderate, compared with other cases, and rapidly subsided; nevertheless the asthenia and anorexia were very severe. The vomiting subsided a little, and the diarrhœa ceased after the rash had come out.

Four weeks from the commencement it was noted (*September 4th*), "patient extremely weak, both in body and mind; *wanders a little.* Incontinence of urine and fæces. Vomits occasionally. *Weakness out of proportion to rash*, which was never very extensive, and of which there are only slight remnants, in the shape of scurfiness on feet now. *Has lost all his hair. Has nasty sour smell like other patients, though no rash now.*" Two days later he died of the asthenia.

The urine was normal, and the temperature subnormal throughout—96·8°. on the morning before death.

Necropsy, made twelve hours after death, by my colleagues in my absence, revealed a healthy condition of all organs and tissues, excepting the joints. *The stomach contained excess of mucus and patches of congestion.*

The intestines appeared normal, but, unfortunately, were not opened.

This patient was in perfect health for his years, in spite of his joint condition, at the time of the onset of the dermatitis, and he came of a healthy, long-lived stock. *This case, like M. XI., XXXV., and others, was suggestive of the introduction of the poison by way of the alimentary canal. Another interesting feature was the total disproportion between the visible evidences of the skin lesion, and the severity of the constitutional symptoms.*

CASE M. XLIII.—George R——, æt. 40, was admitted to VIII ward on July 22nd, 1891, on account of a severe injury to the face. In other respects he was *in very good health*, but there was a good deal of suppuration around the wound, and it was a long time healing. The eruption started (*August 6th*) two weeks after admission, *not around the wound*, but attacked the chest, and then the arms. It was described as *having the appearance of urticaria*, and soon faded away. *Four weeks later it reappeared*, and this time rapidly spread nearly over the whole body. It was quite dry and scaly in character, but there was *very little thickening of the skin.*

There were no constitutional symptoms, and the eruption only remained out three weeks. Then it disappeared, as it had come, suddenly. The rash in this case was widespread, but *comparatively trivial.* Nevertheless it was followed by *complete loss of hair.*

Here, moreover, is another example of a healthy man in the prime of life being attacked shortly (*two weeks*) *after admission.*

*CASE LIV.—William S——, æt. 48, was admitted to VII ward for a painful Ulcer on the left leg. It dated from an injury fifteen years before. It was incurable and painful, therefore his left leg was removed below the knee on September 18th. He made a good recovery, and, though there was still a small sinus on the stump, he was getting up daily preparatory to leaving the infirmary, when he was attacked with the eruption. *It did not begin on the stump*, but "began with *irritation over the back* and loins on October 15th, *though nothing was then to be seen.* On the 16*th* papules came out over centre of back, and spread rapidly by continuity to the whole of the back and loins." By the 19*th* it had spread to the neck, arms, and forearms. On the 22*nd it made a feint at fading;* vomiting now occurred and the appetite was quite lost. The vomiting continued intermittently throughout, and the rash, with fresh vigour, spread and became general. It was a papulo-erythematous rash, attended by considerable tumefaction and induration, by great burning and irritation, by the formation of vesicles in a few places, but in most going on without this to the exfoliation of the cuticle in large flakes. The swelling of the face was so great as to close the eyes, which were themselves severely inflamed and discharged an irritating fluid. The severe burning prevented sleep, and the patient was extremely weak and ill. The tongue at first coated, then became red and raw; the vomiting continued, but no diarrhœa. By the 22*nd day* the patient commenced to rally, and except for a slight recrudescence on the face (*November 8th*) he made an uninterrupted recovery; this taking place in the same order as the parts had been attacked. It lasted about five weeks altogether. Towards the end *numerous boils formed, the nails became ridged and came off, and the hair everywhere was shed.* Once only was a haze of albumen noted. The temperature remained normal during the first six days, rose gradually for four days to 100·8°, and then fell gradually for six days to normal. After this it averaged 98·6° in the morning and 99·6° in the evening. This is a very typical example of an *acute* case of the affection, the only one which it has been thought necessary to publish, *occurring in a middle-aged healthy man. The definite course was here very marked, resembling a specific eruptive fever, only without much pyrexia. Cultivations from the patient's blood taken on the twenty-third day gave the characteristic diplococcus.*

Case M. LV.—William A——, æt. 68, was admitted to V ward on April 18th, 1890, for Cardiac Valvular disease, attended by anginoid attacks. There was no history of gout or previous skin disease. He was in fair general health when first attacked by the eruption on *July 2nd.* It began on palms of hands, remained for a few days, and then subsided. Five weeks later (*August 8th*), *took on fresh action,* spread to the arms; and in a few days attacked the forehead and the rest of the body and limbs. It was described as quite dry and consisting of "sago-grain" papules topped with scales. On the legs it had a *purpuric character. August 25th.—"In several parts about the trunk there are concentric rings. In centre a flat papula, outside this a white zone, and outside all a raised ring of congested skin; suggestive of erythema iris."* There was not much induration of skin excepting of the face, elbows and hands. It subsided about *September 15th,* after a duration of ten-and-a-half weeks, leaving considerable pigmentation, cracked parchment-like skin in many places, and *enlarged glands in groins and axillæ.* There had been some albuminuria and vomiting on one occasion (August 28th), but both the thickening of the skin and the constitutional symptoms were less than many of the cases. *The temperature was normal in the morning and about 99° in the evening, excepting between August 27th and September 4th, when it had an intermitting character, went up gradually to 104°, and was attended once with rigors.* During this time the rings were present on the body, the face was considerably swollen, and there was severe conjunctivitis. The disease was attended by the usual anorexia and asthenia, and was followed by loss of hair and nails; but the patient ultimately made a good recovery. *Germicides had a markedly good effect, though they were not applied early enough.*

My Own Case consisted simply of a dryness and scurfiness of the ears, and skin around, attended by a good deal of itching and thirst; lasting for a week or ten days in July. Both ears were attacked about the same time. The leading feature was the exfoliation of the skin of these parts. I have never before had the slightest affection of the skin.

Female Cases in the New Infirmary.

All the cases occurring in females were of a slighter character, and only three patients died as a direct consequence of the disease, against eighteen males who succumbed.

Case F. I.—Sophia W——, æt. 81, was admitted to III ward, bed 1, on June 30th, 1890, for Arterial Disease and a curious condition of Hemi-ataxy. She was getting up daily when, on *June 20th*, raised erythematous blotches were noticed on the right elbow, which became scaly, without exudation. Here the rash remained localized and gradually faded till only redness was left; but on the 9th of July it appeared on the face in a more severe form, soon after reappeared on the arms (*both together this time*), and gradually became general by spreading from place to place, from above downwards; the legs being last to be attacked and only slightly, The primary attack lasted nearly nine weeks (June 20th to August 20th). The rash was dry and exfoliative throughout, attended by great weakness and loss of appetite, by conjunctivitis, by slight albuminuria, occasional vomiting, diarrhœa, loss of hair, and slight elevation of temperature (to about 99°). It was followed by a slight relapse. The patient, however, *never rallied from the weakness;* pulmonary congestion supervened, and she died on October 4th. At the autopsy the arteries were much degenerated, but no morbid lesion of any organ was found to account for death.

Case F. II.—Jane R——, æt. 45, was admitted to III ward, bed 30, for Subacute Rheumatism. *The eruption* in this case, which began in the back, was *very trivial*, but about the same time the patient was troubled by *anorexia and vomiting*, extending over several weeks, and by *considerable weakness* for some time after, neither of which could be accounted for on any other supposition than that it was *connected with the epidemic malady.*

Case F. IV.—Eliza M——, æt. 66, was admitted to III. ward, bed 11, on April 27th, 1891, for incipient Chronic Bright's Disease. The urine was normal, and she had quite recovered on June 25th, when the eruption started behind the ears. Thence it spread down the back, attacked the elbows and inner sides of knees, but it never became quite general. Like many of the slighter cases, it lasted a long while—nine weeks. *The albuminuria returned during the attack*, but the patient ultimately made a good recovery.

•**Case F. XIII.**—Mary L——, æt. 32, was admitted to III ward, bed 14, on June 10th, 1890, for alcoholic Multiple Peripheral Neuritis. Some six or eight months after admission she had almost recovered from this complaint, but she developed a chronic form of phthisis, which confined her to bed. Meantime, the eruption appeared as raised, flat, isolated papules on dorsum of right foot, over both internal malleoli and on face, and by-and-by elsewhere, though *never becoming confluent or general.* As each papule enlarged, it *spread into a ring, and developed a purpuric basis.* The ring consisted of a raised, congested margin, and enclosed a depressed scaly area, hardly, if at all, moistened. It lasted a long time—three or four months—and did *not run so definite a course as the others;* each papule seeming to run *its own course.*

Any constitutional symptoms observed might have been due to the lung mischief. It is difficult to account for the *purpuric element in so young a subject;* but it is worth mentioning that she had been subject to hæmorrhages of various sorts before the lung mischief developed, and which were regarded at the time as instances of vicarious menstruation. *Ung. sulph., applied latterly to the patches, seemed to be very efficacious.*

*CASE F. XXI.—Maria T——, æt. 68, the subject of our coloured illustration (frontispiece in the February number), *naturally a thin woman*, was admitted to II ward on October 29th, 1890, for eczematous Ulcer of the left leg. The patient had formerly had eczema, and six years before an attack of "erysipelas" followed by "abscesses" and "loss of hair." The ulcer took nearly a year to heal, and it left a patch of chronic eczema on the left leg and thigh, which persisted to the time of the epidemic attack, *and then disappeared.*

On *August 6th* the epidemic malady started as a *clearly defined oval ring under the chin, perfectly clear in the centre, red and raised at the margin*, size of half-a-crown. This, after spreading a little, faded away in the course of a week. Then the eruption *broke out with redoubled vigour* on the forehead and spread rapidly. This time the eruption took the form of discrete papules, such as are seen on the chest in the coloured plate, and vesicles. The whole body was attacked, sooner or later, but the arms and face were always the worst, and here the thickening was very great and the exudation considerable. *The face at one time was half again as big as natural.* The primary attack lasted six-and-a-half weeks, and was followed by a slight relapse. The temperature varied between 97° and 99°; once it reached 100°, when the swelling was at its height. The anorexia and asthenia were marked, at one time recovery being despaired of. There was some albuminuria, and the rash was followed by *general wasting*, alopecia, and leucoderma. *The initial patch beneath the chin is still marked by a white area, which contrasts strongly with the natural colour of the skin around.*

CASE F. XXVIII.—Emily O'G——, æt. 60, was admitted to II ward, bed 14, on May 18th, 1891, for aortic valvular disease. The rash first appeared on August 10th, on the back of the right hand, as two flat papules, which *enlarged into erythematous rings* surrounding a depressed area covered with tiny vesicles barely visible to the naked eye. It was spreading rapidly, but *the prompt application of half per cent. creolin lotion effectually checked it, and resulted in a rapid cure.* Three weeks later patches appeared (*this time symmetrically*) on the forehead, knees, ankles, and elsewhere, each surrounded by discrete papules, and at first it was thought that the eruption would get the mastery in spite of the application of the creolin lotion; but *perseverance and a slight increase of strength in this solution was successful* in curing the disease without its becoming general, and without any severe constitutional symptoms.

Seventy-three cases (thirty-two males and forty-one females) occurred in the

SICK-WARDS OF THE WORKHOUSE,

but sufficiently detailed notes could not be kept of these to form a consecutive history.

II.—Cases at Marylebone Infirmary.*

(*Which is situated about one mile from Paddington in the Western District.*)

By the courtesy of Mr. J. R. Lunn, I was enabled to see these on several occasions, and they all bore a marked general resemblance to my own cases. The Infirmary is considerably bigger than the Paddington Infirmary, being certified to hold 776 as compared with 284 patients. In the autumn of 1891, 198 cases of the dermatitis occurred, and ten of these proved fatal,—*a death-rate of 5 per cent.* In addition to the inmates, *several of the officers, nurses and porters, contracted a slight form of the disease*, but in them the constitutional symptoms were of a very trivial order. The duration of the disease seemed to be rather shorter than the Paddington cases, giving an average of six weeks, though many of the patients had successive attacks, or, at any rate, relapses.

Some of the complications which followed were of rather a severe kind, such as meningitis, gangrene of the feet, &c. Mr. Lunn found that if *a patch of the disease, when it first appeared, was painted with collodion, the progress of the disease was stopped.* This may, perhaps, be regarded as another evidence of its contagious nature, and the fact that several of the staff contracted the disease, although quite healthy at the time, is evidence of the same nature.

III.—Cases at St. Mary's Hospital,

Are referred to by Dr. Lees in a letter to the *Lancet*, August 22nd, 1891. Both Dr. Lees and Dr. Stephen Mackenzie are agreed that *whatever the disease is, it is not an eczema*, though it bears strong superficial resemblance to a severe case of that disease.

The malady attacked four patients who were in St. Mary's Hospital for some other disease.

The desquamation of the epidermis in large flakes was very profuse, "*reminding one of scarlatina.*" There was slight rise of temperature in two cases. In one, the eruption was fatal, but nothing pathognomonic was found after death beyond the skin lesion. It is a curious fact that St. Mary's Hospital is situated about the same distance from Paddington Infirmary in one direction as Marylebone Infirmary is in another; and in both, the outbreak was slighter than at *Paddington, which seems thus to have been the centre of the morbid influence.*

IV.—Case in the Female Lock Hospital.

A well-marked instance of the disease occurred in this institution, which adjoins the Paddington Infirmary, under the care of Mr. Ed. Milner.† The patient was a woman, æt. 44, the subject of necrosis and thickening of the calvarium. The eruption first appeared on the chest, on October 2nd, in the form of dusky red patches *with raised margins*, which gradually spread over the whole body; attended by profuse exfoliation, and profound prostration. The temperature was a little elevated (to 99°—100°) all the while. About November 3rd *she was noticed to have "very marked tremors, and hurried respiration"*; severe diarrhœa, and delirium supervened, and she died in a semicomatose condition on November 14th, six weeks from the commencement. At the autopsy incipient lardaceous changes were revealed, which accounted for the albuminuria and diarrhœa during life. *At the time when the jactitation and hurried respiration were noticed, the patient was improving in other respects; nevertheless the case ended fatally.*

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* *Vide* Discussion at the Medical Society of London, *Lancet*, September 5th, 1891.

† For the notes of this case I am indebted to Mr. P. J. Kingston, the Senior House Surgeon.

V.—CASES AT THE HANWELL ASYLUM.

FEMALE DEPARTMENT.

DR. RICHARDS, the Medical Superintendent, mentioned at the discussion which took place at the Medical Society, November 30th, 1891,* that he had observed cases of the disease among the patients in the females' building. He said that he might have overlooked some before his attention was directed to the matter by the correspondence in the Journals.† He had, however, collected some thirty-eight cases, which occurred in the autumn of the year 1891, out of about 1,140 inmates; or 3 per cent. Arranging the cases in decades, he found that five were between 30 and 40, six between 40 and 50, twelve between 50 and 60, eight between 60 and 70, and seven between 70 and 80.

Most of the cases broke out in September and October, but no fresh case occurred after the end of the latter month. The eruption started most frequently on the face, as a papular rash, which generally went on to the formation of vesicles, accompanied by thickening of the derma, terminating in profuse exfoliation, like pityriasis rubra. Other parts of the skin were also first affected, and especially the *back and loins, where it started almost as frequently as on the face.* The cases seemed to be somewhat less severe than those at Paddington, but in other respects they were precisely the same. None of them terminated fatally, nor was the disease followed by boils, pigmentation, or falling off of the nails. Treatment did not seem to have any effect on the course of the disease. Dr. Richards made careful investigation into the causation, and failed to attribute it to any article of food, nor could it possibly be the soap, nor the water, which was drawn from a deep artesian well. As to the pathology, he thought that *the nervous system played an important part, and he also thought that it was in some way connected with influenza,*‡ though there were no other manifestations of influenza in his patients at the time, excepting perhaps in one or two of the cases, where the patients had complained of pain in the back and limbs, before the rash appeared.

The outbreak of skin disease at Hanwell was *followed by an epidemic of diarrhœa,* without obvious cause.

In the autumn of the previous year, 1890, a somewhat similar epidemic of an eczematous affection had broken out among the patients at Hanwell; and at the same time, influenza was rife amongst them.

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* *Lancet*, December 5th, 1891.

† *Ibid*, August 5th, 1891.

‡ This uestion is discussed in the *Journal* for February, p. 158.

VI.—CASES AT THE LAMBETH INFIRMARY.

(*Which is situated in the South-Eastern District of London.*)

I AM indebted to the kindness of Dr. Lloyd, the Medical Superintendent, for permission to see these cases, and to publish the following brief notes, which I took during my visit. I was informed that about twenty-five cases in all had occurred during the autumn of 1891, and a few similar cases had occurred in the autumn of 1890. Several of the patients had had very severe attacks, but only one of them had died.

CASE I.—John L——, æt. 65, suffering from chronic rheumatism. He had had the eruption for the first time in the autumn of the previous year, and had got well; *the rash had come out again lately* about eight weeks before, first on the hands, and had spread all over the body. The skin had been very red, and finally large flakes had come off;—entire *casts of the fingers.* At the time of my visit the skin was deeply and uniformly pigmented all over the body.

CASE II.—A man named S——, æt. 56, had had the eruption all over the body. The skin had been "a bright scarlet," and he had scaled all over. The constitutional symptoms had been rather severe in this case, and on one occasion the *temperature had gone up to* 104°; nevertheless, at the end of three weeks, he thought that he was sufficiently well, and took his own discharge.

CASE III.—John H——, æt. 80, had been admitted originally for granular lids. The eruption had come out in May, first on his hands and arms, and had spread thence all over the body. There had been very severe itching. The rash first appeared as *red papules and flat blotches*, sometimes dying away, sometimes becoming confluent. At the time of my visit there was a good deal of pigmentation, dying away in places, but still mapping out the extent of the rash.

CASE IV.—James B——, æt. 61, had been admitted into the infirmary twelve months before for gout. He had tophi in the ears. *He had been attacked last year with the same disease of the skin.* The rash first appeared at the bends of the elbows, and the whole body had gradually become of a bright crimson colour, with a considerable amount of swelling and induration. The epidermis in his case had come off by disquamation as tiny scales, rather than big flakes. The nurse, in giving particulars of this case, made a significant remark, "*We have had so many cases of this curious skin disease that I am apt to mix them up, and not to distinguish one from another.*"

CASE V.—A man named K——, æt. 63. He had suffered from gout on former occasions, and came into the infirmary this time for pulmonary mischief. He had never had the eruption before. It had commenced four or five weeks before on the ears, and also about the same time on the right instep and the elbows, and had spread all over the body.

CASE VI.—A man named O——, æt. 50, seemed to be an illustration of the epidemic skin disease, supervening on a chronic rupial condition. There were two fairly distinct forms of eruption on his body at the time of my visit. 1. Superficial rupial patches on the legs and arms, which he had had on and off for four or five years. 2. A general crimson induration of the skin, which was continually shedding its epidermis in bran-like flakes. This had begun on the chest, and gradually spread all over his body. He had improved lately in both respects.

Case VII.—Nathaniel V——, æt. 50, had *been admitted for the skin disease.* He had *had the same disease four years ago*, which had quickly spread all over the body. At the time of my visit the entire skin was crimson and somewhat thickened. The head was covered with crusts and flakes, especially the scalp, and the arms and legs were covered with fine bran-like scales, the result of the disquamation which was continually going on. There had been few or no constitutional signs in this case.

Cases VIII. & IX.—I heard of two others, one exactly resembled the preceding; and the other (70 years of age) was said to have come out in a crimson rash all over the body; the skin had peeled off very profusely, and he died after being ill for a few weeks. He had never had it before.

It will be seen that these cases, like many of my own, involved all parts of the body; it was evidently a general rash, and, as in my cases, most of them were in the Infirmary for something else, and had evidently contracted the skin disease whilst there. Three of them differed from any of my cases in one very important particular, viz., *in having had a similar disease in previous years.* One of them had had the disease four years before, and two of them had had it the preceding year. All but one of the cases presented constitutional symptoms, chiefly prostration and loss of appetite; and one of the cases had been followed by boils. Two of them had been followed by marked pigmentation.

NOTE ON THE HISTORY OF SCLERODERMIA IN ENGLAND.

BY T. COLCOTT FOX, M.B.,

Physician to the Skin Department at Westminster Hospital.

THE history of sclerodermia in England serves to set forth the gradual growth of our knowledge of this malady, and illustrates very clearly the confusion that arose from the application of different names by various authors to phases of one and the same disease, and, further, the happier conditions which prevail in the present generation for the dissemination of knowledge.

Everyone knows that Willan (on Cutaneous Diseases, 1808) referred to this disease under the term *ichthyosis cornea,* but he said that he had never met with a case. He mentioned the very striking generalized example observed by Cursio in the Royal Hospital at Naples,* and gives references to other probable cases affecting the extremities. Hillier suggests by implication that perhaps Willan's vitiligo, so mysterious to all, was really sclerodermia. The record of Cursio's case is still interesting for its typical characters, the affection of the tongue, and the treatment adopted. The girl could not bear warm baths of milk-and-water, nor to be covered up with clothes to make her sweat; so vapour baths were given with results that appear excellent because perhaps the disease was resolving.

The term *ichthyosis cornea* was afterwards applied by Alibert, and adopted by Bateman, to denote cases of what we now know as ichthyosis, characterized by horny-looking projections. Under this same name the late Mr. Startin (a pupil of Alibert's) described a very well-marked case of generalized sclerodermia in a young woman

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* "An Account of an Extraordinary Disease of the Skin, and its Cure. Extracted from the Italian of Carlo Cursio; accompanied with a letter of the Abbé Nollet, F.R.S., to Mr. William Watson, F.R.S.," by Robert Watson, M.D., F.R.S., *Philosoph. Trans.*, 1754, p. 579, Vol. 48, part II.

(Lectures, *Medical Times*, 1846, p. 371).* Thirial's observations, published in the preceding year, were apparently unknown to them, as also the description of both the diffuse and circumscribed forms of the disease given by his master, Alibert.† Perhaps I may quote Startin's remarks. In the case he describes the disease began in the arms and hands of a young lady and gradually involved the whole body. She developed pains in the chest and palpitations. The skin never perspired (as in Cursio's case). The fingers were contracted into the palms, the nails were curved and thickened, the hands and arms like solid wax. There was very slight motion in the joints, scarcely any in the fingers. *The tongue*‡ participated in the disease. Startin makes the following general observations. It is a very rare disease, and may be local or general. He had seen one generalized case, and thrice the local variety. The disease "manifests itself by a horny, rigid state of the integuments, which, like the last-mentioned variety, may extend over the whole body, or be confined to one spot, or portion; it commences mostly in a point, generally from some injury the part may have received, a stiffness or hardness being the first morbid appearance; this creeps on until the whole limb is similarly affected, and then the whole body may be more or less attacked with the complaint. To the eye there is little apparent mischief in the early stage, but the touch discovers a preternatural hardness, amounting to a feeling as though the integument were converted into cartilage or horn, or as if the cuticle had been gummed on pasteboard. After a time the fingers and joints become contracted and horny; growths project from the knuckles, and points of bone slightly covered by integument." Those parts, he says, where subcutaneous muscular fibre or strong superficial fasciæ exist are most remarkably implicated. Nayler, who was so intimately associated with Startin, writes, in his work published in 1866, that he has never seen a case of general sclerodermia or ichthyosis cornea, as it is called, and on page 272 he refers to Addison's description and the models of "true keloid," and shows that he was unacquainted with circumscribed sclerodermia or morphœa. His remark that "in the case recorded by Mr. Startin, which is also that to which Alibert refers," is worth noting, and suggests that Startin and Alibert had been in communication on the subject. Then comes, as far as England is concerned, the notable paper in the *Medico-Chirurgical Transactions* of 1854 by the celebrated physician of Guy's Hospital, Thomas Addison; but Alderson had shown a case of circumscribed sclerodermia four days previously at the same society.* Addison was apparently quite ignorant of the previous descriptions by Alibert and Startin, and his designation of the affection as "true keloid" was most unfortunate, and greatly obscured the subject for a prolonged period. Great confusion existed for many years. Sedgwick recorded a case, under the name of *true keloid*, in which one side of the tongue was involved, in the *Pathological Society Transactions* for 1861. Hillier, writing in 1865, p. 175, under *Vitiligo*, describes what were probably two cases of "morphœa," but his account leaves the matter a little uncertain, more especially as he proceeds on p. 224 to cite Addison's description of "true keloid," and to discuss Thirial's sclerema, which, he says, very much resembles Addison's keloid. He continues the history of Sedgwick's case. This brings me to the very important contribution of Erasmus Wilson, who applied the term "morphœa" to circumscribed sclerodermia, because he believed these cases were really vestiges of true leprosy, and the term so used is commonly fathered upon him. It appears, however, that before the date of Wilson's contributions there were two models in Guy's Hospital labelled "White tubercle, or morphœa." Who was responsible for this name I do not know. Lastly I will mention Hilton Fagge's masterly communication in the Guy's Hospital Reports, 3rd Series, Vol. XIII., 1868, a paper insufficiently known, I think, on the Continent. Fagge was thoroughly acquainted with Alibert's writings on keloid, but ignorant of that dermatologist's description of the forms of sclerodermia. In his paper Fagge concluded that Addison's keloid "instead of being a distinct affection, is, in fact, but a part of a much wider group of cases which are spoken of (chiefly in French and German literature) under the name of sclerema, scleroma, or scleriasis." He reviewed Addison's four cases and three of his own, and distinguished them from Alibert's keloid. He then deals with cases recorded as scleriasis, &c., and points out the transitional features between them and Addison's keloid. So far all is most satisfactory, but then he separates a group of cases occurring, as he then thought, only in the male sex, and localized to the left side of the forehead and nose in the cutaneous distribution of the fifth nerve, "and mostly its upper division, and to this group only he applies the term morphœa." He recognizes the analogies between "chronic scleriasis" or "Addison's keloid" and this limited group he calls morphœa, but, after considering the arguments for and against the identity, concludes that the two affections should for the present be regarded as distinct. "The theory," says Fagge, "which regards Addison's keloid and morphœa as modifications of leprosy is, in fact, nothing more than an arbitrary hypothesis."

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* It is not unlikely that the two cases of "peculiar species of dry gangrene of the skin," reported in Brodie's lectures illustrative of various subjects in Pathology and Surgery, 1846, were cases of circumscribed sclerodermia.

† Besnier, *Ann. de Derm. et de Syph.*, 2 ser., 17, No. 1, 1880.

‡ Several cases in which the tongue and mucous membrane of the mouth were involved are mentioned by Fagge.

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* Notice of a case of skin disease.

I have ventured to put together these few notes in the hope of making clearer what is to some a very confused chapter in the history of skin diseases in England. Whilst I am writing on the subject I may also add that Virchow, in his *Pathology of Tumours*, said that Addison's keloid seemed to him to be partial sclerema and sclerodermia, which he had himself observed. I have been unable to identify the description attributed to Bärensprung, who is said to have forestalled Wilson in his account of *Morphœa alba lardacea* (Goschen's *Deutscher Klinik*, 1855). I have also noted that Cazenave, in his Atlas (Planche xli., Keloid), gives a very fair illustration of morphœa of the breast. Gibert (a pupil of Biett), in his 3rd Ed., p. 565, gives an unmistakable description of widespread circumscribed sclerodermia in a man aged twenty, under the term *Lèpre Vitilige.*

CULTURES OF ORGANISMS OF EPIDERMIC DERMATITIS.

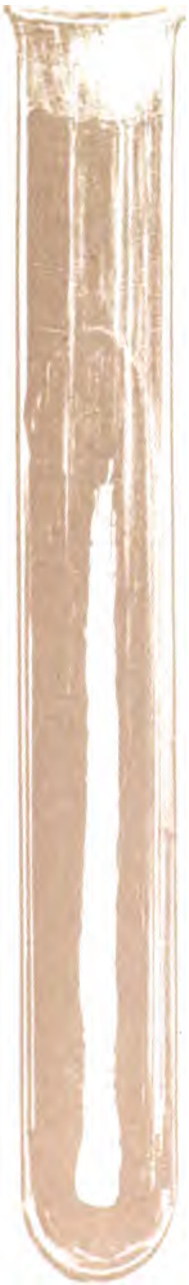

Fig. 1.

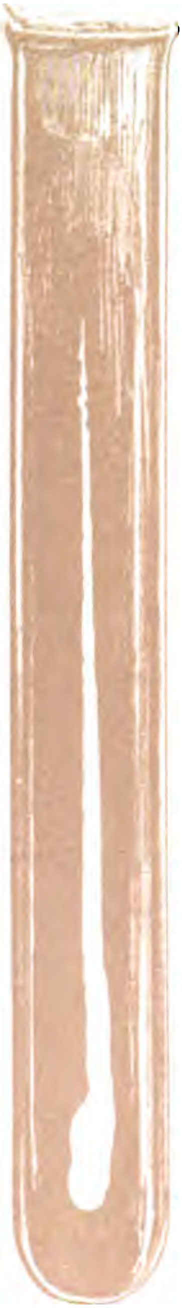

Fig. 2.

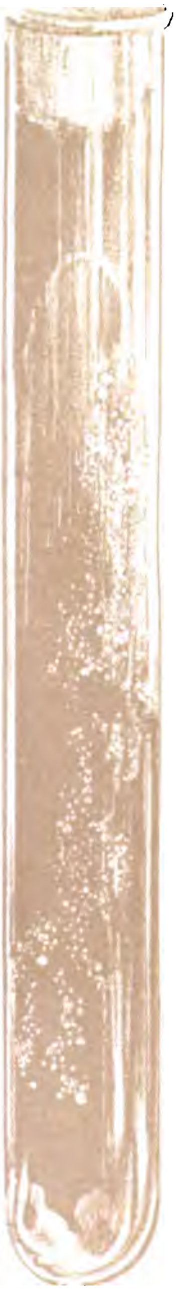

Fig. 3.

TO ILLUSTRATE DR. RISIEN RUSSELL'S PAPER.

Danielsson & Co., litho.

THE BRITISH
JOURNAL OF DERMATOLOGY.

APRIL, 1892.

THE BACTERIOLOGY OF EPIDEMIC EXFOLIATIVE DERMATITIS.*

BY J. S. RISIEN RUSSELL, M.B., M.R.C.P.

I WISH to express my sincere thanks to Dr. Savill for his kindness in giving me the opportunity of carrying out the following investigations in connection with the epidemic skin disease, the clinical and pathological characters of which have already been so ably discussed by him; and also for his courtesy in putting every facility in my way while I was engaged in these researches. Unfortunately the opportunity only came towards the end of the epidemic, so that the amount of material at my disposal has been limited, though sufficient, I think, to warrant the conclusions I have come to, which are stated in the concluding paragraphs of this paper.

General plan of research.—1. The skin of patients suffering from the disease was examined microscopically for micro-organisms.

2. Artificial nutrient media† were inoculated with blood which was withdrawn from the bodies of such patients, during life in some cases, and after death in others.

3. The under surface of flakes of epithelium, detached from the bodies of patients, was also employed for inoculating artificial nutrient media.

4. The broth culture was used to inoculate gelatine, from which plate cultures were made in order to separate the colonies; and from

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* From the Pathological Laboratory of University College.

† In all such inoculations broth was the nutrient medium employed.

such separated colonies pure cultures were made on gelatine, agar-agar and potato.

5. From such pure cultures cover-glass preparations were made, and various colouring agents used to bring the micro-organism into evidence.

6. Animals were inoculated with pure cultures of the organism.

7. Finally, control experiments were made. (*a*) Sections of skin of patients who were not subjects of the disease were prepared and stained for organisms, exactly as had been done with the sections of skin from patients suffering from the disease. (*b*) Artificial nutrient media were inoculated with the blood taken from the cavities of the hearts of patients who had died of some other disease.

Microscopic examination of the skin.—Specimens were obtained by excising small pieces of skin the surface of which had been carefully purified by being washed with solution of perchloride of mercury (1–1000), and afterwards well rubbed with absolute alcohol. The specimens were cut in gum, and the sections afterwards stained in the following ways:—1. Methylene blue, watery solution; 2. gentian violet, alcoholic solution; 3. fuchsin, alcoholic solution; 4. Gram's method, stained with gentian violet, and decolourized by Gram's solution; 5. Weigert's method, picrocarmine used as the ground stain for the tissue, and gentian violet as that for the micro-organisms.

The prevailing micro-organism found in sections prepared in all these various ways was invariably a diplococcus, though a few cocci were also found, and in one specimen a single chain of streptococci. These diplococci were scattered through the sections, and were especially numerous in the deeper layers of the skin.

Cultivations from the blood.—(*a*) *Taken from patients during life.*—The surface of the skin was carefully cleansed with perchloride of mercury (1–1000 sol.), the part chosen being free from exudation or suppuration. A small puncture was made with the point of a knife the blade of which had been well heated in the flame of a spirit lamp; and the blood collected in capillary tubes which had been previously hermetically sealed and sterilized. The tube was run several times through the flame of a spirit lamp after one of its closed ends had been broken off. After the blood had been collected in it, its point was again hermetically sealed by keeping it in the flame of the spirit lamp for a few seconds. The blood thus obtained was next put into broth, and at the end of twenty-four and forty-eight hours, other media were inoculated from the broth, including gelatine plates for the separation of the colonies. These experiments were only carried out in connection with three different patients: once the result was negative, once septic organisms were present,* and once staphylococcus aureus was the only organism present.† Through the kindness of Dr. J. J. Pringle, I had an opportunity of examining the blood of a fourth patient who was under his care in the Middlesex Hospital, and who was at the end of the fifth week of what was diagnosed to be a sporadic attack of this disease; but this examination also yielded a negative result. Possibly in all these cases the blood was not examined early enough in the course of the disease; in one case it was examined as late as the fourteenth week.

(*b*) *Blood taken from the cavities of the heart after death.*—I had not an opportunity of obtaining the blood myself, but Dr. Savill informs me that he took the following precautions when securing it:—The heart was rapidly removed and plunged whole in a strong solution of mercuric chloride (about 1 in 100) and left there for 10–15 minutes. Then it was removed, and a hole made into the left ventricle with a sterilized scalpel, through which carefully sterilized capillary tubes were plunged, allowed to fill, and immediately sealed in the flame of a spirit lamp. In all such cases the specimens of blood were set aside for two or three months before being used. Then the same routine was gone through as in the last set of experiments; and cultures were obtained, from which cover-glass preparations were made. These were stained with gentian violet, and on microscopic examination the organism proved to be a diplococcus, identical in appearance and behaviour to that already seen in the sections of the skin, *e.g.*, a patient (M. XXV. *vide* page 88), died with the disease fully developed, and the blood from the left ventricle contained this micro-organism, *and it alone.* In one instance the blood was found to be swarming with septic organisms when the cultures were made from it. This was no doubt due to the accidental entry of such organisms at the time when it was obtained, or possibly before this.

Cultures from the under surface of epithelial flakes removed from

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* In this case the blood had been kept for several weeks before the cultures were made.

† The skin of the part punctured, though carefully cleansed, had been exuding a slight purulent discharge previously.

patients who were desquamating.—The scales chosen were such as had not yet become detached. The outer surface of these was carefully rubbed with perchloride of mercury (1–1000 sol.), and then with absolute alcohol. By means of a pair of sterilized forceps flakes were then raised, and some put into broth, while the under surface of other flakes was rubbed over the surface of gelatine. In twenty-four hours, at a temperature of 20° to 25° C., very small white colonies, scarcely visible to the naked eye, were to be seen scattered on the surface of the gelatine, and in forty-eight hours they became quite distinct. They were uniformly of the same appearance, and subcultures on gelatine, from different colonies, all presented exactly the same appearance. From the broth cultures were made on other media, at the end of twenty-four and forty-eight hours; and in every case they were identical with those obtained from the gelatine colony cultures. Microscopic examination of cover-glass preparations made from the various cultures showed them to consist of the diplococcus which had been found in the sections of the skin, and in the cultures obtained from the blood. Plate cultures were made, and all the colonies seem to be identical in appearance. Among the numerous micro-organisms present in cultures from epidermic flakes from Dr. Pringle's case, already referred to, the characteristic diplococcus was conspicuous by its absence.

*Inoculation experiments.**—Pure cultures of the organism were mixed with distilled water in such quantity that the mixture was quite opaque and milky. Of this 2 C.C. were inoculated into one guinea-pig, and twice that quantity into another; the subcutaneous tissue of the abdominal wall being the site chosen for the inoculation in each instance. The animals never showed the slightest sign, either locally or constitutionally, that there was anything wrong with them.

The ear of a rabbit was shaved, and then scratched until it became rough and excoriated; some of a pure culture of the organism was then rubbed well in, but the animal never showed any sign of being affected either locally or constitutionally. Another rabbit was inoculated by subcutaneous injection with 4 C.C. of a broth culture, with absolutely no result. A young dog was similarly treated with a similar amount of broth culture, with a like negative result.

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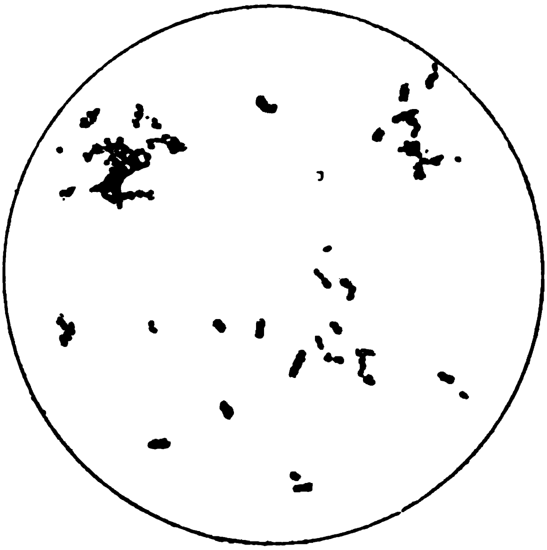
* I am indebted to Mr. Rubert Boyce for having kindly inoculated the animals for me, as I do not hold the necessary certificate.

Control investigations.—(*a*) Sections of skin, from persons not suffering from the disease, were stained in exactly the same way as were those taken from patients suffering from the disease, in order to determine whether or no the same micro-organism is to be found in such healthy skin. The results of these examinations showed that such skin does not contain these micro-organisms.

(*b*) Artificial nutrient media were inoculated with blood taken from the cavities of the hearts of patients who died of some other disease, and who had never suffered from the disease in question, but no cultivations could be obtained from such blood.



Diplococcus of Epidemic Exfoliative Dermatitis from a pure gelatine culture. × 1,000 diameters.

(*c*) I had the good fortune to obtain the opportunity of examining the blood of a typical case of Pityriasis rubra which was under the care of Dr. J. J. Pringle in his private practice. The patient was in the fifth week of the disease, and inoculation of various nutrient media with the blood failed to demonstrate the presence of any micro-organisms.

Characters of the micro-organism.—It is a diplococcus,* in size

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* The term *diplococcus* is used loosely to denote the paired arrangement of the segments, and is only applicable to this organism in the sense in which it is used to denote Friedländer's organism, which consists in reality of short rods lying singly or in pairs.—*Cf.* Fraenkel "Grundriss der Bakterienkunde," Berlin, d. auf., p. 411.

almost as large as Friedländer's diplococcus of pneumonia. Its segments are either ellipsoidal or rod-like, according to the stage of its development. Attempts to bring into evidence a capsule have never succeeded. It is easily stained by all the usual colouring matters, and is not decolourized by Gram's solution. As has already been said, it may be brought into evidence in the tissues by Weigert's double stain. The stain that it takes on most readily is an alcoholic solution of gentian violet, while that which it takes on least readily is a watery solution of methylene blue. It grows readily in all the various artificial nutrient media, at the ordinary temperature, but most rapidly at a temperature of 20° C. In broth it settles at the bottom of the vessel as a whitish mass, which, when shaken up, rises in long shreds. The upper portion of the liquid is also made opaque. At the ordinary temperature it does not show signs of commencing to grow for several days; but at a temperature of 20° to 25° C. there is distinct evidence of commencing growth at the end of twenty-four hours, which has increased greatly by the end of forty-eight hours. On gelatine it commences to grow in twenty-four hours at a temperature of 20° to 25° C., and in its earliest stage appears as very minute round colonies, almost identical in appearance to a culture of the streptococcus of erysipelas. At the end of forty-eight hours it has lost this character, owing to the blending of the colonies to form a uniform slightly-raised growth with even borders (see Frontispiece, Fig. 1), in which condition it remains for a few days, with the exception of becoming a little thicker. It has a distinctly bluish-white colour, and is slightly fluorescent. After a few days it ceases to become thicker, but spreads slowly and irregularly at its margin, so as to produce a much broader culture, with sinuous edges. *It does not liquefy gelatine,* and it requires oxygen to enable it to flourish, as may be readily seen by its behaviour in "stab cultures." In these it grows in the form of minute white round colonies all along the tract of the needle, but in diminishing size and number as the lowest part of the tract is reached, while on the surface it spreads itself out as a flat, uniform, bluish-white disc, the diameter of which is about a sixth to a quarter of an inch or more. In gelatine plate cultures it appears as minute white points, scarcely visible with the naked eye at the end of twenty-four hours, but in forty-eight hours they become quite distinct. These colonies always remain of small size, are spherical, and have even edges. When deep in the gelatine they preserve these qualities, but when on the surface there appears to be a tendency for them to become fluffy. This is well seen in illustration Fig. 3, which is a sub-culture from epithelium from Case M. LIV., thirty days old, in which there is no liquefaction. On agar the cultures present no special features worthy of note, but on potato the growth is exceedingly luxuriant, greatly heaped up, and is of cream colour. It grows at exactly the same rate as on gelatine, at a temperature of 20° to 25° C.

Summary and conclusions.—We have therefore to deal with an organism which is found in the skin, blood, and exudations of patients suffering from this epidemic skin disease; which is stained by all the ordinary colouring matters; which grows readily on the artificial media of cultivation; which grows better in the presence of oxygen than without it; which does not liquefy gelatine; and which, when inoculated into animals, in the doses that have so far been tried, has produced no effect, except in one instance; but in this case Dr. Savill succeeded in communicating the disease to a rabbit, from whose blood typical cultures of the same organism were made (see Fig. 2), and verified to be such by microscopic examination.

The constancy with which this organism is found in connection with the subjects of the epidemic skin disease forbids my believing that its presence is merely accidental; at the same time, as a specific effect on animals has only once been obtained, I am not in a position to affirm that it is the cause of the epidemic disorder which we are considering. Nevertheless, it seems to me that there are ample grounds for suggesting that probably such an ætiological relationship between the organism and the disease does exist. While any specific effect on several animals, resembling that met with in man, would render this ætiological relationship certain, the absence of such effect does not preclude all possibility of the relationship; for we are well aware that other diseases depending on specific organisms exist in man, which up to the present have not been able to be communicated to the lower animals. And we are justified in hoping that, as one animal proved susceptible to the effects of the micro-organism, inoculation of other animals will be attended by additional positive results, instead of the negative ones that have been so far obtained.

As to whether the organism is one which has not been previously described is a question the solution of which would require far more space than can be devoted to it in a paper of this kind; but the main point which we have to decide is not whether or no the organism has been previously described, but whether it is or is not the cause of the disease, the contagiousness of which Dr. Savill has so clearly established. Although this is so, I nevertheless feel that it may not be altogether out of place to call attention to the points of difference which exist between this micro-organism and that which it most resembles in its character, and the conditions under which it is found—viz., the Staphylococcus pyogenes albus. Without going uselessly into detail with regard to minute and possibly contestable differences, the following striking ones will, I think, serve to show that the two organisms are by no means the same:—

1. The organism under consideration is a diplococcus (in the sense indicated), whose segments are ellipsoidal or rod-like, while Staphylococcus pyogenes albus exists as cocci, diplococci, masses of cocci, and chains.

2. It does not liquefy gelatine, while Staphylococcus pyogenes albus does so rapidly.

3. It does not appear to produce a specific effect on animals with the same ease or certainty as the Staphylococcus pyogenes albus.

CASES OF "RÖTHELN" AND "RED RASH"

Which Occurred at Clifton College in the Summer of 1891.

BY A. J. HARRISON, M.B. LOND.

Physician to the Bristol General Hospital and to the Skin Department there.

(By kind permission of W. J. Fyffe, M.D., Medical Officer to the College.)

During the Summer Term Rötheln was very prevalent in Clifton, and, about the middle of May, broke out in the College, and in the course of a few weeks ninety-one cases had occurred, which presented nothing unusual in type; but on June 27th cases began to arise which either developed a secondary, very red rash, or were admitted into the Sanatorium with this rash as a primary manifestation, resembling cases which have been described in other places, and, notably, at Charter House and a school at Oxford within the last few years.

Two boys, from separate masters' houses, were admitted into the Sanatorium, on June 22nd, with symptoms of Rötheln; but on the 27th, when the ordinary rash had disappeared, one boy (Case 1.—V——) complained of sore throat and feverishness and, at the same time, a bright red rash showed itself on his chest, arms and body, and later, on his legs. The nature of the rash is best described as a well-marked "erythema." His temperature was 101·6° Fahr.—never higher—and on the second day, when the rash began to fade, his symptoms, including temperature, subsided and apparently he was well. On July 5th desquamation began, and by the 8th was well marked on the body. On July 18th he left the Sanatorium.

Case 2.—The other boy, L——, displayed the "red rash" on the same day, and it lasted for one day only; but he had no fever, no sore throat, and only slight peeling.

Case 3.—A third boy, B——, from another house, who commenced with German measles on June 21st, did not develop the secondary rash until the 29th, when he had headache, sore throat, and a temperature of 101°. In this case no desquamation occurred, and he left the Sanatorium on the 21st of July.

Case 4.—On July 1st a boy, B——, from the same house as the first case, V——, had a very extensive secondary rash, after an ordinary attack of Rötheln on June 26th. His temperature was 103·6°, but came down with the appearance of the "erythema," although it remained higher than normal for a week. On the 12th very free desquamation began, affecting the hands by the 18th, and on the 25th the feet also.

Case 5.—On July 2nd a boy, C——, was admitted from a fourth house, with bright red rash on his face and body. He had no sore throat, no headache, no sickness. His temperature was 101·2° the first day, normal by the third day, and then kept so.

On the 10th peeling began on the body; the next day he had a hot bath, and then, the following day, a bright red rash, rather more punctiform in appearance than the first eruption, came out on his thighs (more especially) and legs, these parts having scarcely been affected before. He never felt ill the whole time, and on the 24th went out.

Case 6.—On June 29th a boy, A——, from the same house as the second case, L——, came in with German measles; but on July 3rd was so well that he was allowed to get up. On the 5th he had sore throat, a temperature of 103°, and a bright red rash. With the rash all active symptoms subsided, except that his temperature was a little above the normal for a week. Desquamation began on the 16th, but was soon completed, as on the 28th he was dismissed from hospital.

Case 7.—On July 7th a boy, M——, was received from the same house as the fifth case, C ——, with a slight erythematous rash on the arms. He had no sore throat, no headache, no abnormal temperature; and, after a slight process of desquamation, was sent away again on the 22nd.

Case 8.—On July 9th E——, from a fresh house, was re-admitted, having been discharged the day before after ordinary Rötheln, for which he had first come in on June 26th. On re-admission he had a very general "red rash," accompanied with sickness, and a temperature of 101·4°. On the 17th desquamation commenced, and continued for some time, so that he was not able to leave the Sanatorium again before August 11th.

Case 9.—On July 17th a boy, C——, from a fresh house, was taken in with well-marked "Rötheln." The patches extended, and on the 20th became very erythematous-looking at their edges. It looked as if two rashes coalesced—if one may regard them as separate entities. There was neither sore throat nor sickness; the temperature never rose higher than 101·2°, and on the third day was normal. The rash began to fade on the fifth day; but before doing so, distinct pustules appeared on the hips and thighs. My notes made at the time state:—

"On July 22nd I visited the Sanatorium with Dr. Fyffe, and saw C——, who, before the Rötheln rash had disappeared, had a 'recrudescence,' and now he has a bright, lobster-looking rash. Temperature 99·2° only."

And again—"July 25th; the red rash has nearly disappeared from the back, but is still visible on the chest, though fainter; but on the thighs it has developed into a pustular-eczematous rash, with marked erythema. He is very well in himself—the temperature has never exceeded 99·2°, and fell this morning to 97·2°."

On the 27th desquamation commenced, and became very free over the body, arms, and legs. On August 11th he left the Sanatorium.

Case 10.—On July 11th a very intelligent boy, H——, from the same house as the 5th and 7th cases, came in with a very general "red rash." He had no sore throat, no high temperature, and when I saw him in bed seemed very well. He very distinctly remembers having had scarlet fever when he was six years old, and afterwards desquamating very freely. Two older brothers had it first. On the 20th July he was removed by his friends.

Case 11.—On July 11th a boy, C——, from another master's house, came in with the "red rash," sore throat, headache, swollen posterior cervical glands, and a temperature of 103·2°. The rash began to fade on the fifth day, and on July 18th desquamation commenced, but he had considerable discomfort from stuffiness of the nostrils, a continual running of acrid discharge from the nose—which made his mouth and chin sore—swollen cervical glands and sore throat, for three weeks. On July 25th, when I saw him again, my notes say: "Desquamation going on on back, body and arms, and a little on the hands." His mother states that "when he was twelve years old he had scarlet fever, and desquamated freely."

Case 12.—On July 13th a boy, H——, a son of one of the masters, and living in a private house, broke out with a very extensive "red rash," but he was not ill, and his temperature was never above 99·2°. The rash was followed by slight desquamation on the body. On the 20th he was removed by his friends, and isolated in lodgings at the seaside.

In the previous May he had had German measles, at the same time as several of his brothers and sisters.

I have recorded briefly twelve cases, seven of which had the rash of German measles first, and then, in periods varying from three to ten days, a secondary erythematous eruption, followed, in six instances, by more or less desquamation, and in one by none; and five other cases in which only the "red rash" appeared, exactly resembling the eruption in the first lot of cases, and followed by more or less desquamation.

In two of this last lot of cases there was a very distinct history of previous scarlet fever.

In no one of the twelve cases was there any kidney complication, not even a trace of albumen,—although it was daily tested for,—and much as some of the cases resembled scarlet fever in the outset or in their secondary development, there were no cases of this fever in the locality until quite late in the outbreak. Besides, there had not been any cases in the Sanatorium for many months, nor after the boys were admitted into the Sanatorium, had they any communication with their respective houses, and there was no likelihood or probability of any milk contamination. Another feature was that the case C——, No. 11, which in some respects looked like this fever, had previously had it.

A true second attack of scarlet fever is very rare. Willan stated that out of 2,000 cases he had seen, he never met with one!

Dr. Davies, the excellent Medical Officer of Health for Bristol, saw the cases, because, if they had been scarlet fever, they ought to have been notified; and he came to the conclusion that they were not such, and both Dr. Fyffe and myself never regarded them as such.

There is so much evidence in seeing a case—the general symptoms must have their weight; and if some of the cases had been this fever, they must have had far graver symptoms than they had, and the temperature would have often been much higher, and continued so for many days.

The twelve cases came from eight houses—two cases from each of two houses, three from another, and five from five other houses. No other cases than those recorded occurred, and when the boys had, either directly or indirectly, after quarantine, returned to their respective homes, they did not, in any instance, communicate any infection.

No case displayed the usual "strawberry" tongue of scarlet fever, and in all cases, except one, C——, No. 11, convalescence was very rapid.

CLINICAL NOTES.

MULTIPLE BENIGN TUMOUR-LIKE NEW GROWTHS IN THE SKIN.

BY T. COLCOTT FOX, M.B.,

Physician to the Skin Department at Westminster Hospital.

THE fifth issue of the "International Atlas of Rare Skin Diseases" contains two illustrations of an affection of the skin described by Schweninger and Buzzi under the title given at the head of this note. As there can be little doubt that two cases of this curious affection have been observed in London, it will be well to make a note of them in the BRITISH JOURNAL OF DERMATOLOGY. Unfortunately, both these English cases have been lost sight of, in spite of every endeavour to trace them, and in neither was it possible to make a microscopical examination of sections of skin.

In July, 1885, Mr. Malcolm Morris brought to the Dermatological Society of London a healthy-looking young woman, who had not been leading a very virtuous life, and who, in consequence of an eruption appearing on her skin, applied at the Lock Hospital for relief. Mr. Morris failed to find any evidence of an attack of syphilis, either on repeated personal examination, or after inquiry at the Lock Hospital. I shared Mr. Morris's interest in this case, and noted at the time that the rounded or oval lesions occupying the trunk were about the size of split peas, clearly differentiated from the surrounding normal skin, slightly raised, white, cyst-like, and soft to the touch, and that they appeared to flatten down into a condition simulating a puckered scar. Various possible diagnoses were discussed, such as lymphangioma, atrophy of syphilitic papules, morphœa guttata, etc.

In my "Report of the Department for Diseases of the Skin," 1886, in the *Westminster Hospital Reports*, I mentioned the case of Lucy S., aged 23, a barmaid, .sent me by my colleague Dr. Sturges. I noted that she had suffered from syphilis three years before, and had a very general eruption, which left scars, and an ulcerated throat. That she had suffered from syphilis I thought clear from the fact that she had, whilst under observation, what I diagnosed as a gumma just below the right knee, broken down into a punched-out ulcer, the size of a florin. I made the following remarks :—

"I wish especially to direct attention to the case of Lucy S., who had an ulcerated throat and general eruption of large papular syphilides three years before. When she came under my notice, by the kindness of Dr. Sturges, the skin of the trunk, shoulders, and thighs was dotted sparsely with most peculiar spots about the size of the little finger-nail. They were of three kinds, (α) dull red, very soft, slightly raised papules (?), shaped like a convex lens, (β) white, very soft and compressible papules (?) of the same shape and size, looking at the first glance like urticarial wheals, (γ) flaccid, loose, foveolated scars of the same size and shape. One scar was on the lip, a few were on the legs, many on the back, many less on chest, but rather more on the abdomen. She was positive that these marks were all left nearly three years past by an early *secondary papular eruption which did not ulcerate,* and she further assured me that the white wheal-like scars redden up now from time to time, and form the red eruption, and subside again. The wheal-like scars when touched were easily depressed, and felt as if a thin layer of skin covered a hole in the skin. The red marks were also very soft, but had *rather* a thicker feel. They were certainly not ordinary syphilitic papules, however. After several very careful examinations at intervals I believe the woman's account to be perfectly correct, and I describe the condition at length because the appearances were most peculiar. When I first saw the woman I at once recognized the case as exactly similar to one brought before the Dermatological Society by Mr. Malcolm Morris. Neoplasms such as lupus and syphilis we know cause atrophic spots without pre-existent ulceration, but it is very unusual in my experience for so early a syphilide to do so."

Mr. Morris had an opportunity of seeing the case recorded by Schweninger and Buzzi, and tells me that he has no doubt all three cases were of a similar nature.

After carefully reading the clinical and histological account given by these gentlemen, I must say that I think the nature of this affection still remains shrouded in mystery.

Mr. Morris also tells me that he saw (September, 1891) similar lesions in a young man who was under the care of Dr. van Hoorn, at Amsterdam.

T. Colcott Fox.

A CASE OF ICHTHYOSIS ASSOCIATED WITH LICHEN RUBER PLANUS.

BY G. G. STOPFORD TAYLOR, M.D., M.R.C.S.,
Physician to the Liverpool Hospital for Cancer and Skin Diseases.

J. E. W., æt. 29, is a tall active man of dark complexion. The left arm particularly and the left leg are stunted in their growth by an attack of infantile paralysis which occurred when he was about two years of age, but it was only when he was stripped for examination that a marked difference between the sides was noticeable. His skin is seborrhœic, and between the shoulders and in the presternal region yellowish-looking crusts are observed.

On the right half of the body only, *i.e.* on the non-paralyzed side, the following eruptions on the skin are apparent:—

1. Corresponding to the position of the mammary and submammary regions there is a well-marked patch, consisting of horny spines projecting from follicular orifices, which give a sharp prickly feel;—*Ichthyosis Follicularis.* The spines are of a dirty yellowish-brown colour and the intervening skin is pigmented.

There is not the least appearance of any inflammatory action round the follicles and no hairs are seen emerging from them. The horns are so firmly implanted that considerable force is required for their removal, and on that being effected a small circular depression with a blood-stained base is left; they vary in length from mere horny dots to a quarter of an inch in length.

Over the right aortic cartilage a slight inflammatory tint is seen round a few hairs.

Over the supraspinatus muscle there is a patch of discrete, flattened, reddish and waxy-looking papules; corresponding to the angle of the scapula there is a patch of spines with waxy papules intermixed. Over the crest of the ilium the papules are closely packed and purplish in colour, corresponding to the right side of the tenth dorsal vertebra; over the buttock, and following the course of the ilio-inguinal nerve and the internal cutaneous nerve of the thigh, other patches are seen. In the cruro-scrotal fold are quite a large number of papular elevations, varying in size from a pin's head to a pea. These latter papules are stained brown. No follicular orifices are seen, and they are all destitute of scales.

2. On the right forearm, where the radial nerve becomes subcutaneous, and following its division over the wrist and down to the terminal phalanx of the forefinger, the following condition is observed: Hard dry papules, purplish in colour, discrete, roundish, conical or flattened, and covered more or less with horny scales, which are very adherent. On the proximal phalanx the papules become smaller and less defined and more horny, and on the terminal plalanx the eruption consists of a thickened horny interrupted line about one-eighth of an inch in width and three-quarters of an inch in length.

The palms and soles, hair, nails and mucous membranes are unaffected.

The patch on the wrist and hand is so rough as to wear away the patient's shirt-cuff, and to necessitate an extra piece of lining in his coat-sleeve.

History.—Beyond the facts that the patch on hand and wrist commenced in early childhood, and that the other eruptions appeared ten years ago, nothing definite can be obtained.

Family history is good. No knowledge of any cutaneous affections among relatives.

Subjective symptoms.—Itches very badly at times, especially on the wrist; occasionally the patient experiences a smart stinging or nipping pain where the spines or horns are the longest.

Remarks.—Undoubtedly this case is one of those mixed forms of keratoses which are exciting the minds of dermatologists all over the world, and which, when settled, will, I trust, sweep into oblivion a lot of useless terms which are perplexing and render confusion worse confounded.

We have the papular form of lichen ruber planus associated with ichthyosis follicularis, and we have in addition a horny patch on the wrist which is something more than a lichen. Why this latter should have taken on a condition of hyper-keratosis from the beginning leads me to suspect an ichthyotic tendency. Of course, it may be argued that it is a verrucose lichen, but I venture to submit that a lichen verrucosus is here congenital. The spines may be compared with a lichen pilaris, or a lichen spinulosus of Devergie, but I would point out that the spines are tough and horny, and are not packed close enough, as in the former. The distribution of the spinous patches, the healthy condition of the integument between the involved areas, the limitation of the disease by the median line, accords with Dr. Crocker's description of ichthyosis hystrix. The reports of Darier's case of psorospermosis led to the examination of the horns by a competent microscopist, but without the discovery of any micro-organisms. In conclusion, the position of the eruptions on the non-paralyzed side of the body, the distribution of the patches in the course of well-known nerves, justifies the opinion that a faulty nervous condition is the etiological factor in the production of these rare diseases.

A CASE OF ACUTE SUPPURATIVE DERMATITIS.

BY G. G. STOPFORD TAYLOR, M.D., M.R.C.S.,

Physician to the Liverpool Hospital for Cancer and Skin Diseases.

M. G., a girl aged 13, came under treatment on the 21st March, 1891, for two small bullæ which had formed in the left popliteal space.

The bullæ were opened, the loose skin removed, and ung. hydrarg. ammon. chlorid. applied.

She was brought for inspection on the 24th.

For the purpose of clearly describing the condition the writer thinks it better to adopt the following plan, viz., to divide the diseased state of the integument into three zones.

1. An outer erysipelatous margin about two inches broad, containing minute, yellow, discrete collections of pus, varying in size from a pin's head to a pea, situated between the cuticle and the derma, without giving rise to any bullæ or any appreciable elevation.

2. An ashy-grey area about 1½ inches wide, representing the cuticle lying flaccid, and raised upon the derma by the pus beneath.

3. The central zone, the size of the palm of one's hand, entirely denuded of cuticle, exposing a bleeding and profusely suppurating papillary layer. This "spreading" dermatitis rapidly extended to the gluteal fold above, and to the ankle below, and surrounded the limb at the back of the knee-joint. As the disease advanced at the

margin, the centre healed under the influence of a weak white precipitate ointment.

April 1st.—Had a well-marked attack of urticaria.

April 24th.—Quite well.

An iron saline was given throughout.

Previous history.—The girl had not been well for some weeks before the attack, having suffered from dyspepsia associated with constipation.

Her mother stated that she had had an attack of erysipelas three years ago, but which was not so extensive as the present one.

Family history.—Phthisical.

Present condition.—Strumous, and dull intellectually.

Remarks.—The rapidity with which the inflammation spread is suggestive of some septic cause being at work, and reminded one of an attack of erysipelas, with its well-defined edge; but the collections of pus mentioned and the shedding of the cuticle leaving an exposed papillary body is against that diagnosis.

The discharge of pus was very free, and the bleeding from the papillary vessels was so extensive as to require the elevation of the limb and firm pressure.

I have seen but two cases of "dermatitis repens," and both began on the hand—one on the thumb, and the other at the base of the ring-finger.

The discharge in these cases was opaque, and the papillary layer was completely exposed. The skin outside the detached cuticle was apparently healthy, and there was no erysipelatous blush.

An injury in both cases was the supposed cause.

LETTER FROM PARIS.

BY LOUIS WICKHAM,

Chef de Clinique adjoint to Saint Louis Hospital.

XII.

A CASE OF EXANTHEMATIC LUPUS ERYTHEMATOSUS IN MULTIPLE PATCHES, SHOWN BY MONS. HALLOPEAU AT THE SOCIÉTÉ FRANÇAISE DE DERMATOLOGIE, NOVEMBER 12, 1891.

THE case was an example of an extremely rare form of erythematous lupus, and was interesting not only from the point of view of the disease itself, but also on account of the error in diagnosis regarding it which existed for a long time. Indeed, the patient—a woman of thirty years of age—had been shown by M. Hallopeau at the same Society exactly a year before, on November 13, 1890, under the title of "chronic erythrodermia, with acute outbreaks, probably the beginning of a mycosis fungoides." The following are the terms in which M. Hallopeau then spoke of the case:—"The first stage of mycosis fungoides may present itself under different forms; it is generally not recognized, or misinterpreted. The patient I now show has been considered successively as suffering from eczema, syphilis and erythematous lupus; the eruption, at first limited to the face, has progressively invaded the trunk and limbs; it shows itself in the form of erythematous outbreaks preceded and accompanied by intense itching; it has been on several occasions attended with the production of vesicles and blebs; the appearance of the eruptive patches recalls that of polymorphous erythema, but they are persistent; they are not much raised above the general surface; the skin is thickened and infiltrated at their sites; on the face the redness is uniform, and there are very few intermediate portions of healthy skin; on the scalp there are several patches of partial alopecia, the hairs which still remain there being atrophied. M. Vidal made the diagnosis of mycosis fungoides on the ground of the existence of some small tumours at the back of the neck. I adopted this diagnosis, relying also upon the results of an histological examination. The principal characters of that eruption are recorded in the description which Bazin has given of mycosis fungoides; this eruption only differs from it in the existence of bullæ, in the presence of desquamation, at times abundant, and in the febrile exacerbations which are severe and of long duration."

The demonstration of the case caused much sensation at the Society, and M. Hallopeau was able to recall his having shown, one year previously, an absolutely analogous case in a man with the diagnosis of mycosis fungoides in its early superficial stage, a diagnosis which has since received full confirmation. For my part, I was greatly struck at finding in M. Hallopeau's female patient an eruption of exactly the same characters as those presented by the man to whom M. Hallopeau referred, and whom I know perfectly. And on comparison of the two cases the diagnosis of mycosis fungoides in the woman appeared perfectly legitimate. What would have been the astonishment of many to learn that these lesions were about to manifest themselves gradually in the following months as belonging to a form of erythematous lupus in one of its mobile, exanthematic varieties! The different eruptive patches became modified; some disappeared, while others became permanent with more precise characters, exhibiting depressions and central cicatrices, and finally producing—on both forearms, for instance—lesions so typical that even a pupil recently arrived at the Hospital Saint Louis would not have hesitated to diagnose "lupus erythematosus." Obviously, then, one had to deal with an erythematous lupus from the beginning; but how are these different phenomena to be explained? I do not wish to—and indeed I cannot—enter into the numerous considerations which are involved in the study of the case, and I confine myself, in order to complete this curious history, to the reproduction of the words of the learned physician of Saint Louis himself when he last showed the case.

"The diagnosis of this dermatosis was most difficult; it was regarded in succession as eczematous, syphilitic and mycosic. The results of histological examination appeared to compel us to eliminate the hypothesis of an erythematous lupus when we first showed the patient; nevertheless, it turned out to be really an example of that disease. M. Besnier recognized it from the model made by M. Baretta, and the modifications which have taken place since then in the condition of the patient leave no doubt with regard to its nature. Now, in place of the exanthematous eruption disseminated in numerous foci, which we saw a year ago, there exist only a small number of eruptive patches. Their characters have become notably altered; these are at the present moment merely foci of simple erythematous or erythemato-follicular lupus. The parts which were formerly the seats of such persistent erythematous lesions have almost entirely resumed their normal condition. On the contrary, the phenomena of cutaneous asphyxia formerly observed have become more pronounced, giving rise to permanent alterations in the nutrition of the fingers and toes. The polymorphism of this lupus has been most remarkable. We have noticed the progressive development of large erythematous patches spreading excentrically, of bullæ, ecchymoses, losses of pigmentation, and even of small cicatrices, of the phenomena of local asphyxia, and finally of wheal-like plaques. If lupus erythematosus is a disease of tubercular nature—as we are inclined to admit with M. Besnier—the complete and, so to speak, spontaneous disappearance of the majority of its exanthematic manifestations is a fact worthy of attracting attention. In considering such an hypothesis, one might with much plausibility invoke the intervention of toxines analogous to tuberculin. Probably one ought to refer to the same cause the disturbances of the vaso-motor innervation which show themselves in the outbreaks of urticaria and in the manifestations of cutaneous asphyxia. According as dermic inflammations thus produced are accompanied by more or less marked hyperæmia, there are sometimes only redness and swelling, at other times the production of bullæ and ecchymoses. The existence of persistent patches of simple or follicular erythematous patches is accounted for, on the other hand, by the action of infective agents developing in the affected parts, probably from bacilli extremely attenuated in their virulence, or from another form of tubercular infective material not yet determined."

GENERALIZED URTICARIAL ERYTHEMA IN ANNULAR AND CIRCINATE PATCHES.

This eruption began as a true urticaria by wheals, as the effect of scratching, provoked by intense pruritus. On the fourth day no new wheals appeared, but large red spots developed which were erythemato-papular, annular and circinate, of very different sizes. This new and very slightly raised eruption was accompanied by only slight itching. The centre of each plaque was a little pale, and here little crusts resulting from scratching were to be observed. The lesions were almost universal, but most abundant on the limbs and on the backs of the hands; they were in small numbers in the dorsal region and on the face. This erythematous eruption, which had lasted for three weeks, was difficult to classify; it was not true urticaria, for rubbing and scratching did not cause the formation of any wheals. Neither was it true polymorphous erythema; for its origin by wheals for four days, and the itching—slight it admittedly was, but quite well defined—which accompanied the erythema, remove the diagnosis from true polymorphous erythema. There still remained for consideration eruptions due either to *ingesta* or to external remedial agents. Examination revealed nothing wrong with the dietary. But the patient presented a very large varicose ulceration on the right leg, and the skin was much inflamed round about it. It was impossible to ascertain what substance the patient had applied to the wound; but as she admitted that the first sensation of itching and the appearance of the first wheals coincided with the application of a new salve, there is good reason to believe—although it is impossible to be certain on the point—that the disease was an erythema urticatum due to some external application.

ULCERATING SYPHILIDE AND SOFT CHANCRE.

I have just seen in Professor Fournier's service an ulcerative lesion at the margin of the anus, which is a perfectly accurate reproduction of all the objective characters of a soft chancre. As there was also a suppurating bubo in the groin in positive relationship with the anal lesion, there appeared to be no doubt that it was a soft chancre. Professor Fournier, however, hesitated for the sole reason that *in that* *region where auto-inoculation by contiguity is so easy, there ought to be small soft chancres in the neighbourhood;* none could, however, be discovered. The lesion was single. An inoculation was made on the arm with matter scraped from the ulcerated surface, but without result. The operation was repeated, but again without result. There could, therefore, no longer be any question of it being a soft chancre. Subsequent interrogation revealed the existence of syphilis previously; in reality the lesion was an ulcerating secondary syphilide accompanied by glandular inflammation. One may learn the following lesson from this observation, viz.: that when a single, chancre-like lesion is present in a region where the skin is in folds, and where auto-inoculation by contiguity has every probability of occurring, diagnosis must be deferred till experimental inoculation has been performed.

CURRENT LITERATURE.

HYDROA VACCINIFORME (BAZIN); HUTCHINSON'S SUMMER PRURIGO.

Mr. Hutchinson's term "prurigo" is a mild appellation for so intractable and disfiguring a disease as that of which Dr. Buri reports a case in the *Monatshefte f. praktische Dermatologie*, September 1, 1891. It is unnecessary to go into the individual details which he there sets forth. The lesions appeared on the face, hands, and forearms, and began, as such cases do, in the early summer, when the sun's rays begin to gain in active power, passed away in a few months, only to recur again next year at the same time.

Dr. Buri's account of the general course of the eruption is as follows:—Small, hard nodules, lying in the skin, increase peripherally on the surface and rise gradually above the level. The centre becomes clearer and transparent, as if it contained fluid. It is at first clear, but later on assumes a darker colour, becomes brownish, and finally dark brown. This discolouration spreads centrifugally until the whole efflorescence is converted into a brown mass. If the crust be removed by scratching, which is not always feasible, an oozing ulceration is exposed, of somewhat deep extension. Under appropriate treatment (zinc ichthyol salve mull, and later exfoliation produced by resorcin paste) healing takes place, but results generally in the production of a variola-like pock-mark.

Handford (*Illustrated Med. News*, October, 1889, cit. Buri) describes the first beginnings of a case which he observed. Often, only a few hours after the child had been exposed to the sun, small papules showed themselves on the face, at first of the size of a pin's head, later of that of a lentil, developed in three or four days to vesicles and bullæ, dried in the centre to form a yellowish crust, and took on exactly the appearance of small-pox. On the sixth or seventh day the crusts fell off, and whitish scars remained. The eruption was usually limited to the face, but occasionally attacked the hands and forearms. The ears especially suffered, and their surfaces were thick and raw.

Bazin's description (*Cours de Semiotique cutanée*, 1855, cit. Buri) is excellent, and leaves no doubt as to the identity of the affection which he describes with that more recently brought forward and named by Mr. Hutchinson.

"Hydroa vacciniforme is a rare and little-known affection. The majority of the cases were taken for syphilis or scrofula. They were of long duration, and resisted the most varied methods of treatment.

"Symptoms: hydroa vacciniforme appears first after exposure to fresh air, or to the rays of a powerful sun. Some feeling of malaise and loss of appetite often accompanies the outbreak. The eruption shows itself primarily on the unclothed parts of the body, especially the nose, cheeks, hands, and later on the other parts.

"Red patches are first noticed, on which transparent vesicles, like the vesicles of herpes, soon appear. From the second day the vesicles present a distinct central dell; they soon lose their transparency, and at this moment resemble exactly a variola or vaccine pustule; in a short time a crust forms, extending from the centre towards the periphery. In some patients the numerous scars give a distinct impression of a previous variola, in others the sero-purulent secretion and the thick crust would lead to the belief that the case was one of impetigo, did not a few isolated outlying efflorescences in course of development prevent such an error. The affection often drags on for months, owing to the development of constant fresh eruptions; in one case it lasted six months continuously. Relapses are frequent, originating under the influences of changes of temperature. In the majority of the cases 'affections de nature arthritique' preceded or accompanied the disease."

There is no doubt, from this account, but that Bazin had noticed a number of cases of this disease, and that with the exception of the inevitable *arthritisme* he had in part rightly diagnosed its cause. It is strange that Tilbury Fox, who paid such particular attention to the various hydroa eruptions, should not have identified it with some of his own cases, for the description given by Bazin is perfectly lifelike, and such cases must have come under his notice. The gross temporary disfigurement which they cause, and their close resemblance at first sight to a bad case of small-pox, render them very striking objects, and not simply the deep pock-like scars which each attack leaves behind, but the extensive lupus-like ravages which the disease may cause, and which are well displayed in Mr. Hutchinson's excellent collection of drawings, help to make up an unique and typical pathological process. There is no doubt whatever as to their origin being due to the action of the sunlight, but, as both Bazin and Hutchinson have pointed out, the disease once started may spread to the clothed and protected portions of the body. I have seen a marked instance of this in a case of my own. The patient, a lad, has now been attacked every summer for several years, by very vigorous outbreaks of the pock-like lesions. They start and grow precisely in the manner described by Bazin, but so far from being "arthritic," the patient is otherwise in perfect health. Each year in the Whit-week holiday he plays cricket for two or three days, of course in full exposure to the sunlight; a week or two after, he comes to the hospital for treatment. The second year, during the summer, he showed me an eruption on the buttocks in the middle line, just at the top of the gluteal cleft. It was composed of raised flat papules looking partially like syphilides, but more like chronic lichen planus. They were about the size of a sixpence, but were united in groups, one of five, one of three, one of two, by their areolæ, which in some places were of a dull crimson, in others of a dull bluish and yellowish-brown tinge. Some of the papules were covered with a slight whitish furfuraceous desquamation on their flat tops; several were ulcerated, the ulcers being shallow and covered with a bright yellow-white from slimy layers through which in places the red raw base might be seen. A group or two of reddish spots of no special character seemed to be the forerunners of a fresh growth. The ulceration gradually spread in spite of a variety of topical applications, and having passed over the whole of the papules, disappeared, leaving thin, atrophic and pigmented scars. The cause of this outbreak was quite mysterious. It certainly was not prolonged by exposure to the sun; nor was it any process of spreading by continuity. He could not tell if there had been any vesicles, but when I saw him there were certainly no signs of any, past or present. On one occasion the patient was staying at a farm, and ran about a good deal in the open air without shoes or stockings; in a few days the eruption broke out on the feet and ankles, but soon disappeared when he again began to wear shoes and stockings.

In another case, that of a girl who suffers every year but not so severely as the boy, the lesions consisted of red raised blotches which vesicate and scab quickly, but never become vacciniform. In her case the eruption is now complicated with a chronic eczema, and the whole of the affected surface, both winter and summer, is thickened, dirty red in colour, and rough and uneven from the mixture of infiltration and scarring. This condition is confined to the face, ears, and hands; the rest of the skin is perfectly normal.

The treatment is strictly palliative. Curiously enough, I have employed the same remedies as those mentioned by Buri, zinc and ichthyol paste, and zinc and resorcin paste, but the latter not in sufficient strength to shale off the upper skin. Both patients are now about 18 years of age, are of healthy parentage, and are themselves otherwise strong. In both the attacks seem to be less vigorous than before, but this may probably be due to the exceptional dulness of our last two summers. Hydroa is a useful word, expressing the bullicular condition which is observed in, apparently, all these cases. Berliner and Buri have proposed the name eruptio æstivalis, a literal translation of Hutchinson's "Summer Eruption." Not simply as a compromise, but as most truly expressing the nature and cause of this very distinctive eruption, I would rather make a combination from the two names and designate it as *hydroa æstivalis*. H. G. B.

IODODERMA, OR DERMATITIS TUBEROSA, DUE TO THE INGESTION OF IODIDE OF POTASSIUM. (*Lancet*, March 12, 1892.)

Dr. Norman Walker, of Edinburgh, reports from Dr. Unna's clinique a very interesting case under the above title. A man, aged forty-one, was admitted with a rapidly-growing painless tumour on the lower half of the nose, of a dark yellowish or orange-red mahogany tinge, with lighter yellowish spots scattered over it. Its appearance was granular, with here and there what looked like openings of sebaceous glands. It looked as if a piece of coloured and varnished putty had been stuck on, but its consistence was extraordinarily sponge-like and soft. The history disclosed that the man, seven months previously, contracted a sore on the penis, which, he said, healed up under the application of cupric sulphate, without cutaneous eruption or loss of hair. His glands were everywhere hard, but not much enlarged. On July 8th, 75 grains of iodide of potassium were ordered daily for a dry and uncomfortable throat, and five days later a red and inflamed-looking nodule appeared on the nose and grew rapidly, and the next day "matter and blood" were squeezed out, and a ring of vesicles appeared round the original nodule. On the eighth day after commencing the iodide the dose was increased to 100 grains daily, the growth steadily increasing in size. On the thirteenth day the medicine was stopped, and three days later, the growth not having diminished, was removed. Histological examination showed an enormous epithelial growth, but the process was due, not to a *downward* growth of the epithelium into the connective tissue beneath, but to an abnormal and excessive *upward* growth of all the skin elements. The epithelium took the greatest space in the growth, and was in an active stage of proliferation, but the fibrous tissue also took its part. The blood-vessels and lymph spaces were dilated, and some of the spaces contained wandering cells. The connective tissue was very œdematous. No sweat ducts or glands were found. Hair follicles existed in considerable numbers, invariably surrounded by an enormous growth of epithelium. Large or small collections of leucocytes existed both in the neighbourhood of the hair follicles and in other parts of the tumour. The sebaceous glands appeared to be represented by collections of only a few sebaceous cells, invariably surrounded by large new growths of epithelial tissue, and this fact seemed to point to the new growth of epithelium in relation to these glands. The author concludes that owing in some way to stimulation by iodine the epithelial cells lining the glands revert to their primitive type, and proliferate as true epithelial cells. The sebaceous cells already formed fulfil their normal destiny and disappear. Small abscesses also were formed in the hair follicles, glands, and epithelial masses. Epithelial proliferation thus occurred both in the lining of the sebaceous glands and of the hair follicles.

This case is very interesting, and deserves careful study. In our experience it is most exceptional that a single lesion should be produced by the ingestion of the iodides or bromides, and the site is unusual. Possibly the single lesion was due to the large doses acting on a person without any idiosyncrasy. Nor does the history of the tumour agree with that commonly met with. The condyloma-like masses so frequently seen in bromide eruptions are compound lesions, formed of papulo-pustules, which subsequently assume some epithelial overgrowth. Further, we have found, in confirmation of the experience of others, that a considerable dermatitis was excited, and that the epithelial growth was secondary. The exact starting point of the dermatitis is a matter in dispute. The author lays but little stress on the small amount of dermatitis present. Epithelial growths, on the other hand, are accompanied by a certain amount of irritation in the surrounding tissues. The condyloma-like masses always flatten down and disappear spontaneously when the drug is eliminated.

T. C. F.

THE HYDATID RASH.

Dr. James Graham, Medical Superintendent of the Prince Alfred Hospital, Sydney, N.S.W., in his recently published work on *Hydatid Disease in its Clinical Aspects*, devotes a section to the consideration of the urticaria-like eruption, which in a small proportion of cases follows the tapping or rupture of hydatid cysts, more especially those situated in the abdominal cavity. The rash usually makes its appearance shortly after the puncture, is generally accompanied by high temperature and considerable abdominal pain, and lasts from two to three days. It has been known to occur before the operation, and then was accompanied by an attack of giddiness and vomiting.

The rash may appear in the typical form of intensely itchy urticaria, or it may present itself as a diffuse erythema, or as a capillary injection more or less localized. In one case the latter condition accompanied the urticaria and persisted long after the wheals had disappeared. Its distribution varies. It may affect the abdomen, chest, arms, legs, face and neck, or be more or less localized to one or more of these sites.

Various explanations have been attempted, such as reflex action and the qualities of the hydatid fluid. Professor Roy's experiments are quoted, in which an endeavour was made to ascertain the nature of the cause of the alarming phenomena which, from time to time, are observed to follow the sudden passage of this fluid into the blood-stream or the abdominal cavity; and the author adds his own observations. Professor Roy concluded that "in hydatid fluid there is a substance which has a powerful effect on both the heart and the respiratory mechanism," possibly through the nervous system; but Dr. Graham, although recognizing the grave and urgent symptoms that follow the entrance of the fluid into wounded veins, or its absorption from the abdominal cavity, points out that in many cases the rash cannot be due to the specific nature of the fluid itself. Moreover, McCall Anderson records a case where urticaria invariably followed the passage of a sound into the uterus, and an urticaria-like rash may follow a tapping for pleuritic effusion.

T. C. F.

UNIVERSAL ERYTHEMA MULTIFORME. (*Journal of Cutaneous and Urinary Diseases*, Vol. IX., November, 1891.)

Professor Louis A. Duhring reports an interesting case of universal erythema of an unusual form in a robust man of 29 years, who had enjoyed good health previously. He was admitted to hospital with a history of one week's malaise, a temperature of 101° Fahr., loss of appetite, headache, constipation and slightly albuminous urine. Rheumatism of the ankle and knee joints of one side was diagnosed, but pains in these regions lessened after the efflorescence appeared. The following night (7th day of illness) erythematous, pea-sized, ill-defined, very numerous, itchy patches appeared on the flexor and extensor surfaces of the arms, on the face, back, chest, and palms, but not on the backs of the hands. For the next four days the patient was restless, the eruption increased in extent and intensity, especially on the chest and legs, and became universal and coalescent; the tongue was dry and uniformly red, the pharynx studded with raised, roundish, reddish patches. The face showed a bright red, diffused and not patchy, erythema; on the neck and trunk were numerous coin-sized, roundish patches, slightly elevated, especially at the borders, and some marginate; the backs of the hands, knuckles, showed typical E. multiforme papulosum; the palms and soles only diffuse redness and swelling. On the 14th day of illness (7th of eruption), the eruption began to fade, but on the general surface, especially where the skin was thin, numerous minute, yellowish-greyish, superficial vesicles developed, such as are met with in scarlatina, and on the face there was a single pea-sized flat pustule. Desquamation became universal, the epidermis coming off in pieces and sheets of variable size, especially marked on the hands and feet. The patient got well.

Professor Duhring regards the case as unique. Unmistakable lesions of E. multiforme were present on certain regions in the earlier stages, but the later occurrence of diffuse erythema, and the remarkable exfoliation are most unusual. "The disease was ushered in with, and accompanied throughout its entire course by, pronounced constitutional symptoms; it was general, attacking the mucous membranes as well as the skin, and, from the involvement of the throat and the persistent nausea and vomiting, it is highly probable that the whole alimentary tract was similarly invaded. The eruption became universal and was of an erythematous type, with a tendency to papular and vesicular formation in certain localities, followed by extensive and complete exfoliation of the epidermis. Its duration from beginning to end was about three weeks, and there was itching throughout this period."

[We infer that there was no gonorrhœa or Bright's disease.—*Reporter.*]

T. C. F.

CONTRIBUTION TO OUR KNOWLEDGE OF LYMPHANGIOMA. Dr. Adolf Schmidt. (*Archives f. Derm. und Syph.*, 1890, p. 529.)

Case I.—S., female, æt. 17, with no important history. According to her mother three small vesicles were seen on the left thigh when she was a young child, which slowly increased in the course of years, but now remain stationary. She is a healthy well-built maiden. On the left thigh (over the position of the sartorius muscle) are twelve or thirteen wart-like prominences, some isolated, others arranged in groups. Their colour is brown, their size equal to that of a pin's head, increasing to that of a lentil. The skin surrounding them appears quite normal: no dilated vessels or œdema: glands in the left groin not enlarged. By piercing the wart-like prominences a very small quantity of serous fluid escapes. Excision of the largest of them was followed by escape of an abundant quantity of clear, slightly yellow-coloured, somewhat glutinous liquid, but little blood. The remaining vesicles destroyed with thermocautery, healed eventually but slowly.

Microscopically.—The growth consisted of communicating spaces or lacunæ, containing finely granular masses with lymph corpuscles, and lined with endothelium. Outside this were connective tissue fibres, covered (on the outer side) by one or several layers of epithelial cells (rete and stratum corneum). The lacunæ were limited to the papillary body, lower part of the dermis and hypodermis, being smallest and least numerous in the intermediate dermis. The horny layer was mostly of uniform thickness, here and there showing pearl-like thickenings. The epithelial cones appeared pressed together and elongated. The lumen of the vesicles was not a single one but honey-combed. The pigment in the deep cells of the rete was increased. Besides the lymphoid cells, masses of cells were seen which presented all the transition characters between lymph corpuscles and young connective tissue cells. The capillaries and vesicles were surrounded along their entire course by a small quantity of round cells, but there was no infiltration into the other parts of the dermis.

"Mastzellen" were seen in all parts of the skin, especially in the papillary layer in the region of the vesicles, and in the course of the blood-vessels, when the sections were stained with solutions of dahlia, as Ehrlich recommends.

Case II.—*Lymphangioma mucosæ oris simplex* (*tuberosum*). Patient a female, æt. 18, parents of family healthy, is of slight build, with an affection of the left apex of lung; also suffered from lupus of face, of left forearm and right foot. The upper lip looked thickened at right angle of mouth, but was soft and not infiltrated. On the mucous membrane of the lip small translucent nodules were to be seen toward the right angle of the mouth, where minute nodules existed also on the external surface of the lip. On the mucous membrane of the cheek, in the neighbourhood of the affected lip, were similar nodules extending as far as the mouth of the Stenson's duct, and on to the upper gum in the region of the right incisor teeth. Altogether a half-crown-sized area of mucous membrane was affected, which appeared somewhat swollen and soft.

A portion of this affected mucous membrane, examined microscopically, showed most clearly in the connective tissue part of the mucous membrane corresponding to the projection seen upon the surface before excision, irregularly formed spaces or lacunæ of larger and smaller sizes. They were lined with endothelium, most of them containing a somewhat coarse granular mass either in the form of coarse hyaline granules (breaking down lymph thrombi of Wegner), or in a net-work arrangement. Other spaces were filled with blood. These lacunæ were limited to the papillary part of the mucous membrane. The papillary layer exhibited smaller subfission-spaces, which were just irregularly dilated capillary vessels. It is very difficult to say from their external form whether they were lymph or blood vessels. Some contained blood, others granular masses, the majority being empty. The epithelium was normal. Everywhere a large number of pigmented cells were to be seen in the course of the vessels. Ehrlich's mastzellen were abundant in all the layers of the mucous membrane.

After commenting on the confused nomenclature of diseases in the group, Dr. Schmidt mentions Gjorgjevic's classification of the cases published up to 1870, namely, "Wounds of the normal lymph-vessels with consequent lymphorrhœa, lymphangiectasis, lymphvarices, lymphangioma cavernosum, lymph tumours lymphadenectases, lymphaneurysma." Then, seven years later, Wegner's classification of L. simplex, L. cavernosum, and L. cystoides, which was generally adopted by authors, among whom were Nasse and Sachs. But *they* gave little attention to the form of the tumour, while the dermatologists carried the specialization too far in arranging the diseases in distinct species according as they were circumscribed, L. circumscriptum (Malcolm Morris), or generalized, L. multiplex tuberosum (Kaposi); or, again, whether they occurred on the mucous membrane or in the cutis.

Schmidt begins by excluding all those conventional methods of arrangement, and distinguishes as varieties of lymphangioma cutis—

1. L. cysticum (cystoides), tumours which appear to the naked eye as agglomerations of smaller or larger bullæ or cysts filled with translucent contents and communicating more or less freely with one another, *e.g.*, cystic hygromata of the neck or nape.

2. L. cavernosum, consisting of a framework of connective tissue, containing honey-combed spaces filled with lymph. These may be congenital or develop in after-life, occurring most usually on the forehead, cheek, neck, axillæ, thorax, and groins. They are usually the size of a fist, but may be as large as a baby's head. They grow sometimes slowly, sometimes quickly. They may be confused with lipoma or soft fibroma. Their characters are benign. To this group belong most of the lymph-vessel tumours. From the lymphangiectases are to be excluded—

3. The endemic form of lymphangiectasis, which in most cases is complicated with elephantiasis, due doubtless to the sojourn of the filaria sanguinis in the blood and the lymph vessels.

4. Those forms of sporadic lymphangiectasis whose origin can be traced to repeated inflammation or stoppage of the large lymph trunks.

But besides these well-defined forms there have been published "so large a number of forms, by individual authors, partly under the name of lymphangioma simplex (Wegner) and partly as lymphangiectases of unknown causation, that we are forced to make a still further separation, in order to be able to separate out from the rest those which resemble our cases."

Dr. Schmidt's first case closely resembled Mr. Malcolm Morris's, published in the "International Atlas of Rare Skin Diseases," Part I., where some account of the literature of lymphangioma circumscriptum will be found. S. does not think that they ought to be placed in a special group separated from lymphangioma tuberosum multiplex (Kaposi), or from the cases collected by Busey. Kaposi describes his cases as consisting of smooth, shining nodules, flat, or only slightly elevated above the level of the skin, not scaly, having a brownish-red colour, about the size of a lentil and distributed over the whole body. After briefly citing cases published by Lewinski, Nieden, Gjorgjevic, Gurlt, David, Demarquay, Lebert, Carter and Fetzer, he passes on to consider the cases of lymphangioma simplex which have been observed on the mucous membrane. Nasse's case corresponds closely with his own, only that it affected the upper lip. Stendener has described lymphangioma of the conjunctiva in a child one year old. The swelling formed an elevated ring around the cornea, was of a pale red colour, with a velvety surface, and had existed from birth. Sachs, in a recent work ("Ziegler, Beiträge," V. I., 1889), mentions other cases of lymph-vessel new formations on the eye. Cases are also recorded by Michel and Alb.

Between lymphangiectasis and lymphangioma transition forms exist so that it is not possible to draw a sharp line between the two. Birch-Hirschfeld thinks the name lymphangioma is applicable only when "the tumours are formed of dilated lymph-vessels which did not previously exist in the affected place." But it is very difficult to prove that a new formation does take place, for lymph-vessels or lymph-spaces exist universally. But granting the existence of lymph-vessels it is difficult to see how the circumscribed lymphangioma can arise. The causes of analogous changes in the blood-vessels "will not," as Nasse says, "apply to those of the lymph, owing to the free anastomoses." Regarding their mode of origin three views have been expressed. Rindfleisch, that retraction occurs in the neighbourhood of the vessels when the young connective tissue is converted into firm connective tissue, whereby these vessels become dilated.

Wegner has supported a "homoplastic" formation of the endothelium of the original lymph-vessels to be the cause of these abnormal changes. Virchow, Billroth, Winiwarter and Weichselbaum suppose the new lymph-vessels to arise out of young connective tissue corpuscles.

Schmidt inclines to the latter view, and mentions, in proof of it, his observation of masses of isolated young cells in the connective tissue between the dilated spaces, which, when magnified highly, were seen to consist of round cells like lymph corpuscles and elongated, narrow cell-processes. He believes these cell-processes form a means of communication between the lymph-spaces, but admits that the exact proof is absent. This observation has been made by others, including Nasse and Kaposi.

LESLIE ROBERTS.

RESEARCH ON THE COMBINED ACTION OF THE BACILLUS OF KOCH, AND SUPPURATIVE AGENTS IN THE COURSE OF LUPUS VULGARIS. Professor LELOIR and M. TAVERNIER. (*Jour. des Maladies Cutanées et Syphilitiques*, October, 1891.)

Leloir and Tavernier believe there are two microbic processes in lupus. 1. Neoplastic: microbe, tubercle bacillus. 2. Suppurative: microbe, staphylococcus aureus. Non-ulcerative lupus does not contain the staphylococcus, therefore does not ulcerate; ulcerative lupus does, therefore, contain the staphylococcus. This is M. Leloir's reasoning.

It is a practical belief with him, his whole treatment of lupus being based on it.

M. Leloir formerly regarded the pus-organisms as "*microbes gendarmes vis-à-vis du bacille de Koch.*" Taking this view, his treatment of lupus was to produce inflammation-suppuration to get the tubercle bacilli "arrested," and the lupus-process stopped. But experience has shown him the futility of this method. He got bad results in this way. The pus-organisms he found to be not "gendarmes" at all, but destroyers of tissue. His treatment (irritative) actually caused the disease in some cases to spread, with suppuration and ulceration.

When he based his treatment on his present view of the nature of lupus he got better results. He directs his efforts now against the staphylococcus, uses anti-suppuration treatment with excellent results, and advises us to do the same.

This view of lupus was taken by Leloir in November, 1890, and expounded in *Médecine Moderne* in that same month.

H. LESLIE ROBERTS.

IDIOPATHIC MULTIPLE PIGMENTED SARCOMA OF THE SKIN.

MIKHAÏL I. STÜKOVENKOFF. (*Vratch*, No. 18, 1891, p. 452.)

Professor Stükovenkoff, of Kïev, communicates the following instance of the rare and interesting disease, described first by Moritz Kaposi under the name of "*Sarcoma cutis idiopathicum pigmentosum multiplex.*" A Hebrew merchant's son, a sickly and poorly-developed boy of thirteen (who had been born prematurely, and, when nine or ten years old, had had œdema of legs with abscesses), happened to wet his feet in cold water, shortly after which he noticed on his left sole a painful dark-red spot of the size of a penny piece. A week later there appeared a similar spot on the opposite sole, and, about three months afterwards, on the left palm. When first seen by the author, about seven or eight months subsequent to the beginning of the affection, the patient was very weak, emaciated (weighing 45 lbs.), and unable to walk on account of pain in his feet. The whole left sole, except the heel and toes, was of a dark purple colour, hard on palpation, and studded with nodules varying in size from a millet-seed to a pea. The dorsal surface of the digits, except the little one, was similarly discoloured, while at the base of the great and second toe-nails there were seated two dense and elastic solitary nodules. The right sole presented identical lesions, but, in addition, there were found multiple nodules, scattered along its outer edge, and a bluish-red patch (6 centimeters long) along its inner edge. Similar nodules, "of the size of a shot," were further discovered on the outer and posterior aspects of both of the legs (five on the left, two on the right) and thighs (three and two respectively). The middle of the left palm was occupied by a diffuse, bluish-red, dense 8-shaped tumour, measuring 5 centimeters in diameter. The little finger was swollen, and, on its radial aspect, purple, while on its ulnar side and the adjacent edge of the hand there were situated four nodules, arranged in a row, and varying in size from a pea to a small nut. The right palm was sound, but the thumb was thickened and covered with nodules the size of a nut. There were also found three growths, of the size of a pea, on the flexor surface of the lower third of the right forearm, and a solitary nodule, not larger than a pin's head, on the tip of the nose.

Discussing his case, the author observes that, as a rule, the diagnosis of the affection does not present any difficulties. The only diseases which might be occasionally mistaken for the Sarcoma (or *vice versâ*) are thought to be gummata of the skin, lepra, and mycosis fungoides. The differentiation is easy. Gummatous nodules are sharply circumscribed, less painful, and less tender; they have a pronounced tendency to disintegration with ulceration and cicatrization; besides, their colour is different from that of the Sarcoma. In lepra, even in early stages, there may be discovered leontiasis, anæsthesiæ, extensive spots, blebs, and ulcers, while in mycosis fungoides the nodules are of a bright-red colour, larger in size, lobulated, intensely itching; they are preceded by an eczematous stage, and manifest a marked tendency to softening.

The prognosis in the described case was thought to be grave. The patient is still under observation, the treatment consisting in the hypodermic administration of Fowler's solution.

[This is the first case of multiple pigmented Sarcoma in Russian literature. Some papers on the same subject may be found in the *British Journal of Dermatology*, April 1889, p. 197; March 1890, p. 98; September, p. 272, and May 1891, p. 165. As Dr. Hardaway's remarkable case shows, the disease may end spontaneously in a complete recovery.—*Reporter.*]

VALERIUS IDELSON (Berne).

CASE OF PITYRIASIS RUBRA UNIVERSALIS (HANS HEBRA). DR. OSCAR V. PETERSEN. (*Bolnitchnaia Gaseta Botkina*, 1890, No. 21, p. 522.)

At a meeting of the St. Petersburg Russian Syphilographic and Dermatological Society, Dr. Petersen showed a middle-aged patient, a clerk, whose whole body, except a few limited regions (including the axillary fossæ) presented a vivid red colour, and was covered with large, thin, bran-like, abundantly desquamating scales. The lanugo was entirely absent. The skin was non-elastic, thinned, atrophied, and strikingly dry. About the lower angle of the right scapula there was a small ulcer (which had resulted from a localized sloughing of the integuments). The hairy scalp was also involved, the hairs being scanty, dry, and easily detached. The gentleman did not complain of any itching or pain. According to his statements, the disease had commenced in his early childhood (at two years of age), a red patch having appeared on the back, between the shoulder blades, and steadily spread in all directions, notwithstanding all treatment. At five, he had had an attack of scarlatina, or of measles; about ten, the affection had involved the entire cutaneous surface. All ordinary means having utterly failed to afford any relief, Dr. Petersen resolved to try salicylate of soda (five grains four or five times a day) and baths (at 27° or 28° R.). The patient is still under observation.

According to the author's theory, pityriasis rubra is a congenital disease, or rather is dependent upon a congenital absence of sebaceous "glands and hair-follicles." He thinks it is incurable [Dr. Sherwell thinks otherwise, *vide* the *British Journal of Dermatology*, March 1891, p. 88].

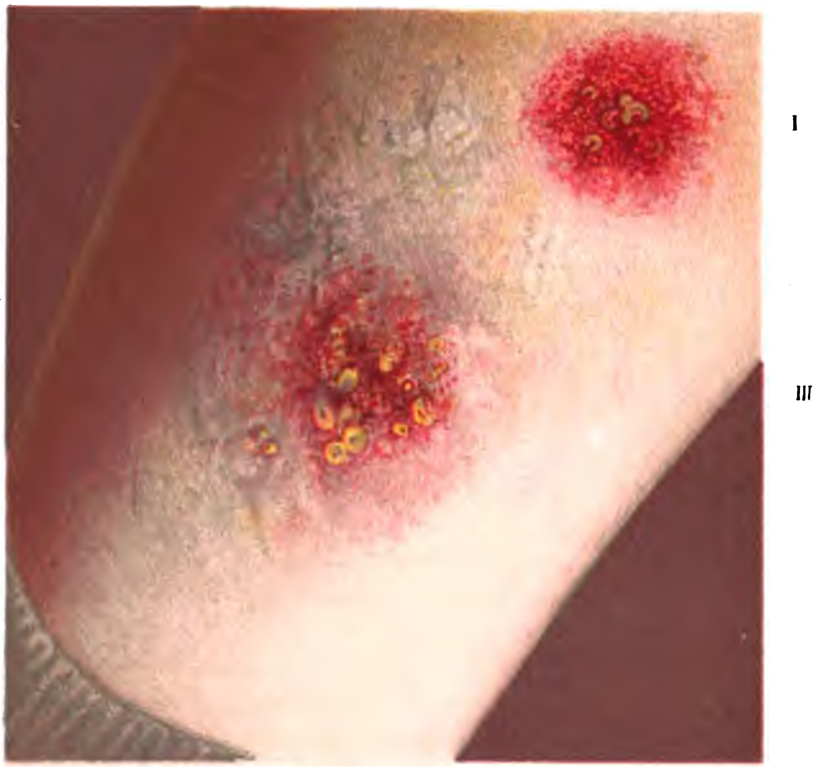
VALERIUS IDELSON (Berne).

ANALYSIS OF CUTICULAR SCALES IN PITYRIASIS RUBRA UNIVERSALIS (HANS HEBRA). DR. IVAN F. JORDANSKY. (*Vratch*, No. 28, 1891, p. 550).

According to Drs. Quinquaud's and Vidal's recent experimental researches (*vide La Semaine Médicale*, Sept. 11, 1889), the profound cachexia which developes in cases of grave desquamative dermatitis, is directly dependent upon an enormous daily loss of nitrogen, sulphur, and carbon present in the continuously shed cuticle scales. In view of the statements emanating from such authoritative quarters, Professor A. H. Gay, of Kazan, has suggested to Dr. Jordansky to make a chemical analysis of scales from a male patient with severe universal pityriasis rubra of thirteen years' standing. It was found that (1) the daily weight of epidermis shed by the patient averaged 5·442 grammes, oscillating between 4·016 and 8·212; (2) the proportion of water therein amounted, on an average, to 13·33 per cent.; (3) the mean proportion of nitrogen in dried scales did not surpass 15·27 per cent. The proportion was determined after Kjeldahl's and Dumas's methods, the respective figures being 15·04 and 15·51 per cent. In other words, it approaches fairly nearly to that found by Funke and Moleschott for normal cuticular scales (11·8 and 14·6 per cent. respectively). The author comes to the conclusion that "the daily loss of nitrogen in this way is relatively trifling, and hence cannot possibly account for characteristic cachexia of pityriasis rubra."

[As may be gathered from a somewhat defective report on the case in the *Dnevnik Kazanskaho Obshtchestva Vratchei* No. 2, 1890, p. 27), the patient's whole body, from the top of his head to his heels, was covered with scales, falling off on the slightest touch of the hand. The man had lost all his hair long before his coming under Professor Gay's observation. Apparently his sweat-glands had undergone atrophy, since sudorifics (including pilocarpine) utterly failed to induce any perspiration. Apart from this, cutaneous atrophy was still relatively inconsiderable. The treatment by iodide of potassium (internally, in increasing doses up to 6 drachms daily, the total quantity of the drug administered amounting to 15 ounces) and warm baths had not produced any impression on the patient's condition. The iodide was resorted to in view of excellent results obtained in a similar case by Professor Trautvelter of Warsaw, who had given his patient as much as 30 ounces in 80 days.—*Reporter*.]

VALERIUS IDELSON (Berne)



SCUTULA OF FAVUS GRISEUS (I.) AND FAVUS SULPHUREUS CELERIOR (III.) ON HUMAN SKIN.

THE BRITISH

JOURNAL OF DERMATOLOGY.

MAY, 1892.

THREE KINDS OF FAVUS.

A PAPER READ IN THE DERMATOLOGICAL SECTION OF THE 64TH MEETING OF GERMAN NATURALISTS AND PHYSICIANS HELD AT HALLE A/S, SEPTEMBER 24TH, 1891.

BY P. G. UNNA.

QUINCKE, in his well-known researches on favus, gave rise to considerable commotion in dermatology, reaching far beyond the mere question as to whether there are one, two, or even three, species of favus. It is not the definite determination of the number of organisms coming under observation that has produced this stir. In fact, as soon as it is settled that there is more than *one* species of favus fungus, it follows that there must be more than one form of disease known by that name. And if, after fifty years' acquaintance with the characters of favus, it should appear that this is a new clinical fact—one which is received incredulously by a number of specialists—then, indeed, our superficiality in clinical matters receives a sharp rebuke! For what disease has been hitherto considered as presenting more uniformity of type than favus, with its characteristic sulphur-yellow scutula?

Therein lies the chief importance of the favus question as regards the whole of dermatology. If we really know so little about an apparently most simple affection, that opposing views are taken by various dermatologists without much prospect of agreement, what must be the state of our knowledge of skin diseases so much more difficult to observe and estimate correctly? If such be the case, the first step to be taken is to place the facts that are so much disputed beyond all shadow of doubt by means of repeated experiment. This conviction led me to again test *the clinical relationships of the favus cultures* made by Dr. Frank during last summer in my laboratory, who recognized three different species. Although I had in my possession ten favus cultures, some of which were made from specimens kindly sent me by other medical men,* all of which showed differences in cultivation—and therefore convinced me of the existence of many more species of favus than any previous investigator had dreamt of—I had to postpone the elucidation of this interesting problem in order to make quite certain of the three species of favus accidentally found by me, and described by Frank, on which the whole theory of different species depends.

For if three generally recognized species of favus exist, then the first step is taken in the new doctrine and its further elaboration, which requires fresh clinical study, will soon be forthcoming.

It is beyond question that the exact recognition of the different species of favus mainly depends upon our success in reproducing the genuine scutula, and a disease analogous to the subacute or chronic form of spontaneous (ordinary) favus. For objections could justly be raised against the proof, derived solely from inoculation experiments as long as only a *superficial, circumscribed, inflammatory action was produced, running an acute course with formation of vesicles and subsequent desquamation.* Some would regard such a result as an abortive attack of favus—the so-called favus herpeticus of Köbner: others would not consider it proof of its being favus, and rightly so, for there are other nosophytic disorders, especially the trychophyta, which run a similar course.

Whoever undertakes to differentiate favus clinically from other skin affections caused by experimental inoculation must leave the diagnosis doubtful until the two following conditions are fulfilled:—

1. That he has produced genuine scutula in man or animals identical with those of ordinary favus.

2. That the disease so produced—subacute or chronic—runs its course without any typical deviation.

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* Two from Scotland, sent by Dr. Douglas; two from Amsterdam, sent by Dr. Van Hoorn; one from Italy, sent by Professor Mibelli.

On the other hand, it is apparently a matter of indifference whether the disease, with its scutula, be produced in man or in animals.

If the experiment fails with man, but yields positive results with animals, this fact has no invalidating effect, as spontaneous (ordinary) human favus is not always communicable to others ; and again—as the following inoculation experiments teach us—the human skin reacts variously to the inoculation of favus in different individuals. The equal value of experiments on man and on animals in this disease—in contradistinction to others—depends chiefly on the unmistakeable and pathognomonic significance of the leading feature : the presence of the scutulum.

The whole question would be much more difficult to answer, were scutula found in other diseases besides favus, or if any doubt existed about their structure. Of course it is desirable that the production of genuine scutula in man should be our final object in all our experiments—that we should persevere in carrying out a series of such experiments, and thus satisfy the postulate required to establish the entity of every fungus. But I do not see any reason for doubting the favus nature of the fungus when genuine scutula are producible on one or several species of animals.

Under these circumstances I shall first relate the experiments with the three species of favus made on human beings ; and then those on animals.

Frank inoculated himself and the laboratory servant with the three species he distinguished. As hitherto every inoculation has failed in the servant, I need not allude to him further. Frank produced Favus I. on his left arm from pure cultures, which I, and, later on, he, had cultivated from different mice from the Zoological Gardens. It appeared as a beautiful, intensely red ring, scaling, with small vesicles and yellow spots at some of the orifices of the hair-follicles. This was proved with absolute certainty to be favus, and precisely that species he inoculated himself with, by obtaining pure cultures of Favus I. from the scales of the affected region, and by reproducing genuine scutula in a black mouse from these pure cultures. There is, therefore, no doubt about this case (" favus herpeticus "). Moreover, the fact that the ring did not appear until three weeks after the inoculation, is quite sufficient an answer to the objection that it might have been " traumatic dermatitis."

Further proof was necessary, then, whether Favus I. could produce any scutula in the human being; still more so in the case of Favus III., which Frank inoculated on his right arm, producing only a reddened scaly spot. For even though the fungus was demonstrated among the scales and hairs, no pure culture could be obtained from them so as to identify it with the original culture (Favus III.).

I therefore asked Dr. Williams to repeat on his own person the inoculation with both fungi. Having recently observed that inoculations of epidermal fungi took more readily when made on the leg, he inoculated his right leg with Favus I. about a hand's breadth below the knee; and with Favus III. a little distance off, on the outer side of the leg.

On the third day inflammation appeared at the site of inoculation of Favus I., on the fourth quite small vesicles had sprung up, and on the fifth the whole area was much swollen and painful at every movement of the limb. On the sixth day thick yellow crusts began to form, and the pain was so severe in walking or sitting that Williams was obliged to remain in the recumbent posture.

The changes at the site of inoculation of Favus III. were similar, but by no means so severe. Inflammation only set in on the fourth day; vesicles, scales, and crusts appeared much slower, and the whole process was much less painful. On the eighth day both places had a similar appearance, except that the crusts of Favus I. were thicker, and the redness of the skin more marked. On removing a crust the surface showed a thin, shiny, horny layer, vesicles were no longer present, and both places had almost dried up. The extraction of hairs caused considerable pain. The crusts showed a large quantity of spores and little mycelium; the hair-roots also showed a few spores.

On the ninth day Williams thoroughly bathed the sites with very hot water, removing all the crusts, after which the pain decreased considerably. After this some very small yellow spots, not invariably corresponding with hair-follicles, made their appearance on both inoculated sites. Thinner transparent scales were again formed, among which an increase in size and number of the yellow spots could be observed. In the course of some weeks these formed typical scutula, varying in size from a peppercorn to a pea. *It was extremely interesting to note that these two favus sites so close together, produced* *at the same time, in the same region and in the same individual, were and remained so dissimilar* (see frontispiece).

These differences—which would strike at once even those who have not had much experience of favus—I demonstrated with Dr. Williams' kind permission, at the Hamburg Medical Society. They may be summed up as follows:—

1.—The scutula of Favus I. were *less numerous* and *less accurately concentric* than those of Favus III.; some, in fact, presented only semi-circles. Favus III. evidently favours the formation of perfect scutula.

2.—The scutula of Favus I. has a *greyish-yellow colour,* whereas those of Favus III. were of *dark sulphur-yellow.* The former at once reminded us of the greyish-yellow colour usually exhibited by the favus of mice.

3.—The scutula of Favus I. were much *softer* and *more friable* than those of Favus III. These latter could, therefore, be easily removed intact from their pits with a blunt instrument, whereas those of Favus I. always broke down.

4.—The scutula of Favus I. were more firmly attached to their horny substratum than those of Favus III., owing to which the difficulty of removing them intact was further increased, if to these four points of difference in the scutula we add those previously mentioned, viz.:—

5.—The quicker appearance of reaction with Favus I.

6.—The severer symptoms of inflammation, especially at first; and finally,

7.—The greater painfulness of the initial symptoms in Favus I.

We have a series of differential characteristics which are quite sufficient easily to distinguish both diseases clinically.

I certainly remember having noticed some, though not all, of these symptoms in cases of favus, without laying any particular stress upon them. *But now I would recommend that in future greater importance be attached to the colour and consistence of the scutula than hitherto.*

As Frank failed in his attempts to produce a growth of Favus II. on himself and on the laboratory servant, Williams inoculated his left leg with it. Unfortunately the site of inoculation was soon after attacked by impetigo, which required such energetic measures for its cure that no growth of favus could possibly take place.

Some time afterwards Dr. Douglas inoculated himself with two different specimens, viz., Frank's Favus II. and some scutula sent us from Edinburgh. Whereas the latter, which I need not mention more in detail here, produced genuine scutula, the former showed only a slightly red circular area which remained some weeks, scaled, and then disappeared. Dr. Douglas was then in Paris, but did not succeed in obtaining pure cultures from the scales. Dr. Leslie Roberts was the fifth, and I myself the sixth, who were inoculated with Favus II., but both experiments failed.

Favus II. presents short, thick, septated hyphæ, furcate, candelabra-like extremities, clavate processes and sporophores. Of the three species of favus of Frank, it mostly resembles Quincke's γ fungus, the species of favus described by Grawitz, Fabry, Verujski, Jadassohn, and Mibelli, and the second variety of Elsenberg. Of course I do not say that it is identical with any of these, or these with one another. Experience has taught me to avoid such conclusions. Furthermore, in many respects, the above-mentioned specimen from Scotland resembles Favus II.

As regards Frank's Favus II. I have arrived at the conviction, after numerous experiments on animals, that we must regard it as a genuine species of favus. To these experiments I shall now allude.

During the summer white and black mice, white and black rats, guinea-pigs, rabbits, cats, and fowls were inoculated with the three species of favus. White mice, black and white rats, and fowls proved to be rather refractory. At least, no proper scutula were developed. Perhaps other sites may turn out to be more suitable than those I used (neck, ears; comb and wattles of the fowls).

Inoculations take much better in rabbits and guinea-pigs than in black mice and cats. But the success of inoculation of each species of favus varies with different animals. The successful inoculations are before you in the shape of stained sections of the skin and scutula. Favus I. from the mouse and rabbit, Favus II. from the guinea-pig, Favus III. from the rabbit. These are the animals in which I obtained the best proof of the existence of the three species of favus.

That there may be no doubt about this point we must describe the scutulum more exactly. Hitherto it has only been of clinical import; but, as you will see, it can also be well defined histologically; and it follows that, if you regard the demonstration of the scutulum as pathognomonic, as I do, the diagnosis of favus will, in future, be much more assured.

Since the time of Schönlein it has been recognized that the scutula consist chiefly of fungi; but it was assumed that the horny layer of the epidermis was implicated to a certain extent. I shall ignore those statements of investigators, based on insufficient methods, who maintain the normal growth of the fungus through the epidermis and cutis. The statement that the epidermis takes part in the formation of the scutulum is also incorrect. The scutulum rests on the lower strata of the horny layer, and is surrounded at first by the middle and upper strata which compress it; later on it frequently becomes free on the surface of the epidermis.

The circumstance that distinguishes the scutulum from other fungoid growths in the horny layer is the *perpendicular growth of the filaments from the horny layer.* The scutulum somewhat resembles the upper portion of a culture on a solid medium. A section shows the aërial hyphæ supporting and interlacing with one another as they leave the medium to form a fungoid growth on its surface. In the scutulum the substratum and filaments always form right angles with the strata of the horny layer; whereas those of pityriasis versicolor and the species of trichophyton form acute angles with, or run parallel to, them. This latter mode of growth corresponds to the condition of the basal hyphæ in cultures on solid media.

However, a material difference exists between aërial hyphæ and the scutulum; the former grow free in the air without any external mechanical obstacle, and in the presence of excess of oxygen. But the perpendicular growing hyphæ of the scutulum must accommodate themselves to cell-pressure, and grow in the absence of excess of oxygen. They raise the horny layer mechanically without penetrating it. In some cases, actually, a number of filaments take root on the epidermis and grow towards the centre of the scutulum; but they remain poorly developed, like the ground which is formed of dead epidermic cells.

This last circumstance has a further influence in presenting the scutulum as an asymmetrically-formed culture, if it be primarily regarded as spherical in shape, consisting of hyphæ running in all directions. The basis grows luxuriantly, the sides less so, and the surface least of all. As the pressure of the growing globe on the horny layer may be considered equal, the less vigorously-growing portion of the surface suffers least, and is depressed towards the centre; and this is why every scutulum, whether developed at the orifice of a hair-follicle or not, shows a concave surface assuming the so-called cup-shape. Hence cup-shaped scutula are found frequently, even on dead soil, with other fungi where there are similar limitations to growth. The outer (lower) zone of the scutulum consists of a dense palisade-like growth of hyphæ, without any intervening horny cells. The structure that is so often seen amongst the latter, and which is so difficult to stain, consists of dead, empty, mycelial threads. Although the fungus is sharply defined from the horny layer, it is by no means independent. On the contrary, it sends ramifications in all directions, and the greater or less adhesion of the scutulum depends upon the number of these.

The inner (upper) zone of the scutulum consists of oidium-like spores, which frequently collect towards the centre, forming a thick deposit. The complicated fructifying structure of free cultures on solid and fluid media exists as little in the scutulum as it does within the horny layer or in hairs.

Owing to the nature of the structure of the scutulum we are able to explain how simple inflammation, or merely the process of the renewal of the epidermis, completely detaches it. If the filaments were able to take root without hindrance in the prickle-layer, as some investigators have thought, there would be no exact limit between the scutulum and the prickle-layer in the lower strata of the epidermis, and consequently the easy removal of the scutulum intact would be less easily explained. But we find in experimentally-produced scutula of animals, as well as very frequently in spontaneous favus, that they are raised wholly, or in part, by a thick horny layer or crust. In fact, we meet with various stages, one scutulum being considerably raised above, an adjoining one covered more or less by epidermis, and between the two a crust is usually seen consisting of inflammatory *débris* of the epidermis. We never find the scutulum penetrated by inflammatory products or sending off-shoots into proliferating epithelium. It always exists separately, and is thrown off as a distinct body. From this description we shall have no difficulty in avoiding any confusion of true scutula with similar growths.

As may be surmised, the scutula of the three species of favus differ from one another in the animals experimented on. But the differences are not so marked in these on account of the simpler growth of the fungus in the form of a scutulum as in the free growth in artificial media.

The scutulum of Favus I. observed in rabbits and mice shows a *very abundant and uniform insertion of processes from the hyphæ. These processes are unbranched in the horny layer, and generally run in a straight direction. The hyphæ shoot upwards quite parallel, very seldom branched, thickly-studded, and form voluminous scutula. The formation of oidiospores is very regular and abundant, and these usually become, in the course of time, thicker and larger towards the centre.*

The scutulum of Favus II. in the guinea-pig shows a less abundant and regular insertion of filamentous processes of the hyphæ. They frequently bifurcate in the horny layer, and are generally hook-shaped. The further course of the hyphæ is less parallel, more tortuous than in the Favus I.; they frequently branch, but do not shoot up so high, and consequently the scutula are less voluminous. On the other hand, almost all the ramifications of the hyphæ in the hair-follicles tend to strike deeper. The formation of oidiospores is not so abundant or so regular as in Favus I.

The scutulum of Favus III. shows a dense upward growth of hyphæ from the horny layer, which does not proceed in parallel lines, as in Favus I., or form rounded-off curved lines, as in Favus II., but presents peculiar nodose, multiangular ramifications. A less abundant formation of oidiospores differentiates this scutulum from Favus I., and ramifications also extend deep down in the follicles, but not so uniformly as in Favus II.

Besides these typical scutula, which thoroughly satisfy the conditions mentioned above, I have produced, by means of inoculation, a large number of epithelial products of less pathological value, which range continuously from the formation of slight scales and inflammatory crusts to abortive and degenerate scutula. Usually where inoculation has partially failed a whole number of such formations are the result, and I shall now proceed to demonstrate the difference between these and true scutula.

Fungus-scales.—By this term I denote those that present distinctly growing fungi, with formation of hyphæ and spores ramifying horizontally in the horny layer, and enclosing detached cells.

Fungus-crusts arise through inflammation of the epithelium, which causes death of the fungus, and prevents the formation of the scutulum. For the implicated horny layer is now and again permeated by fibrinous exudation and pus corpuscles, the fungus filaments, in consequence, show, usually, marked changes, especially spherical bud-like swellings. Fungus-crusts are distinguished from *abortive or degenerate scutula*, by the presence everywhere of a mingling of skin and fungoid elements.

In the latter, as in the typical scutula, the fungus exists as a more or less spheroidal foreign body, thrust, so to speak, into the horny layer. But the above-described regularity of structure is wanting; they stain with difficulty, and from their abnormal bending and swelling, appear to be undergoing degeneration. Usually the fungus consists of an indistinct, compressed, and fine mycelial network, difficult to stain, and partly broken down, but interspersed with coarse masses which stain easily, calling to mind the sporophores of cultures. Formation of oidiospores is always wanting.

It appears to me especially interesting that some of these degenerate scutula, show an intermingling of cocci, which thrive in large numbers, and may either be the cause of the death of the scutula, or a consequence of it. I show you here some preparations of these taken from the rabbit and cat. I must not omit to emphasize the fact that *the normal scutulum* is certainly not a nidus for cocci, bacilli, or other micro-organisms, as has so often been erroneously assumed. The easy infection of favus cultures depends, not on intra-scutular, but on extra-scutular, organisms, which occur in quantities on every head. *The scutulum, as long as it grows normally, harbours as little other fungi as of epithelium.*

I shall not allude here any further to the very interesting discoveries in the skin of animals beneath the genuine scutula and fungus-crusts, but may remark that the process of inflammation varies greatly, both in extent and in kind, with the species of favus, that of the animal, other accompanying infection, and even with the individual animal. The mouse shows by no means the severest signs of inflammation; the guinea-pig and man are much more severely affected, as the preparations here show.

One thing in my experience remains certain—that a simple division into scutular and herpetic favus is not practicable, as Quincke thought. Each species of favus that is transplanted to a relatively unfavourable skin, or prevented from growing by external circumstances (other fungi), may produce scales, crusts, erythema and vesicles, and after running an acute course, disappear. Thus, Favus II. produced a typical ring of vesicles on Dr. Frank's arm, repeated fungus-scales and fungus-crusts, with little scutula, on a rabbit, cat and mouse, but fine scutula, like the human scutula, from which the cultures were produced, on a guinea-pig.* Of much greater import, clinically, is the amount of oxygen the culture requires, to which Quincke has already drawn attention. These striking differences are well seen in the cultures and sections of these. Favus I. forms a thick, woolly layer ½cm. (¼in.) deep on the nutritive medium, and only penetrates it slightly. Favus II. remains, for the most part, embedded in the medium, showing but a thin mycelium on the surface. Favus III. holds a middle position. There is no doubt that the tendency of Favus II. to sprout along the hair-follicles is connected with its small need of oxygen.† The clinically obstinate forms of favus, *i.e.*, those that grow down into the hair-follicles, and are so rebellious to treatment, are also distinguished in cultures by their deep ramifications in the nutritive media. An exact demarcation between favus of the epidermis, and favus of the hair, is, however, not possible in the light of these researches. I think, then, it may be settled that there are three well-marked different species of favus fungus, all of which produce typical scutula in man and in animals, and therefore should always be sharply defined in future by giving the species different names.

I propose to call the fungus of Favus I. which Frank and I have described, *Achorion euthythrix* (with straight running hairs), and the disease it produces *favus griseus*,‡ from the greyish-yellow colour of the scutula. The fungus of Favus II. receives the name of *Achorion dikroon*,§ from the fork-like form of the hyphæ, and the disease produced *favus sulphureus tardus*, on account of its sulphur-yellow scutula and its slow growth.

Favus III. may be termed *Achorion atakton*, from the irregular course of the hyphæ, and the disease it produces *favus sulphureus celerior* on account of its sulphur-yellow scutula and quicker growth.

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* Also on mice. (*See* Addendum.)

† This fact is also connected with the greater need of Favus II. for moisture which I have since discovered from comparative and searching experiments.

‡ Medical Latin. Favus ravus (greyish-yellow) is more classical, but less intelligible.

§ Not to be confounded with dichroon.

As in all probability we shall discover a number of sulphur-yellow, and, perhaps, greyish-yellow, favi, it will be necessary to distinguish them from the above kinds by other clinical features besides mere colour.

Before I conclude I should like to draw attention to three practical, and not unimportant, points.

The reason why a question so easy of solution as the number of kinds of favus should have raised so much controversy, and been so variously answered, is because the methods hitherto employed have been faulty; as, for instance, where investigators who have doubted and criticized the existence of plural forms, have not even instituted the simplest and readiest test, namely, of *inoculating the favus fungi in question close together, and comparing the results.* Those are quite right who state that slight variations in the media can produce marked differences in the cultures, and likewise obliterate them. Even if inoculation takes place in media of the same nature, but placed on different glass plates, the objection may arise that a slight variation in the amount of water is the cause of differences in the cultures. All such objections may at once be met by *inoculating, as soon as a question of identity arises, the fungi,* as I have done, *on the same glass plate and quite close together.* Any possible doubt is thus soon set aside, and sections of the three neighbouring cultures may be made, stained, and examined microscopically, all at the same time.

Those who possess pure favus cultures and wish to compare them with mine, can, by cultivating specimens of them on the same glass plate, soon convince themselves with absolute certainty of their identity or non-identity. With this object I shall keep specimens of the above-described three species of favus in my laboratory, which may be obtained on request. If this method of identification be used, the nutritive medium to be employed is a point of secondary importance. For with almost all good nutritive media, definite, and, in some cases, varying differences may be noticed with the different species of favus. However, certain media are always better adapted than others for displaying plainly the macroscopic differences that are constantly present. It may, therefore, be of interest to know the composition of the medium which I have used for some time in preference to others for cultivating the species of favus. It is composed of :—

Agar	4 per cent.
Peptone	1 „
Lævulose	5 „
Sodium chloride	½ „

The cultures shown to you are all made on this medium. Its preparation, owing to the large amount of agar, requires the use of my steam filter, and a second filtration is necessary to ensure complete sterilization. This is the second practical point.

The third concerns the *preparation of pure cultures* of favus. This is often represented as rather difficult. It can, however, be relatively easily accomplished by every practical physician with the aid of the usual precautions and a knowledge of the following special point. The special point is that the various kinds of cocci and bacilli which interfere with pure cultures of favus require for their growth a not inconsiderable amount of water, and soon cease to thrive when the medium is very dry; whereas the different species of favus thrive remarkably well in a dry medium. It is, therefore, of prime importance to use only dry media in making pure favus cultures. This is best attained by keeping the flasks for some time in a warm place before use; and still better by adding, at the outset, three to four per cent. of agar.* If scutula are used for inoculation, particles are to be taken from the centre, and lightly streaked along the upper and drier portion of the medium. If hairs be used they should be singed almost to the roots, and then placed in the dry end of the tube.

With these precautions I have no longer found it necessary to use the glass plate method. If, as frequently happens, cocci and bacilli appear in the inoculated portion, in a warm atmosphere they are covered over, in a few days, with proliferating mycelium; and pure cultures may readily be obtained from a second inoculation with particles from the margin. Even from scutula sent from a distance (Holland and Scotland) I have easily obtained pure cultures in this manner. Here, again, I may be permitted to make another practical observation.

In my experience the following is the best method of preserving favus for obtaining cultures, or of despatching it to a distance for that purpose. The hair is cut quite short, the favus patch thoroughly washed with soft soap, or otherwise disinfected, and then a piece of good adhesive plaster is firmly applied. After a time it is pulled off sharply, and a mass of hairs containing fungi adheres to the under surface of the plaster. It is then attached to the inner surface of the lid of a small tin box, which has been previously sterilized, so that the hairs hang down free in the box, which is then closed. Thus preserved, the fungus is quite capable of producing cultures weeks afterwards. All wet methods of preservation have not succeeded so well with me, for cocci soon appear in the extracted hairs and kill the favus fungus.

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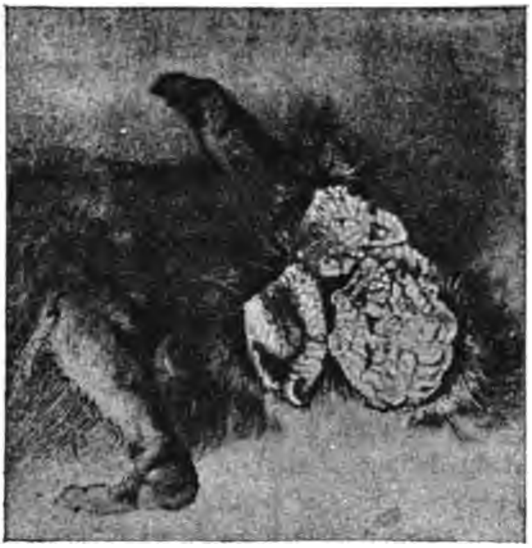
* With impure material it is as well not to neutralize the agar, but to leave it slightly acid; as favus fungi are better able to overcome the growth of cocci in such a medium.

ADDENDUM.

Since I read the preceding paper in Halle, I have succeeded in producing scutula of *favus sulphureus tardus* (Favus II.) in the mouse—the best animal for favus experiments. The inoculation of this fungus on the human skin, on the other hand, after eight trials, only produced erythematous papules in a few follicles, with desquamation which healed spontaneously after a few weeks' duration. I believe I have settled this point. *On the skin of an adult free from hair this species only causes transient superficial disease—the so-called favus herpeticus;* it is none the less a genuine species in the human subject, for it was cultivated from a favus scutulum of a child's head, and, no doubt, would reproduce similar scutula on such a region. However, I did not feel myself called upon to make this experiment, as in the meantime I had been fortunate in producing on the mouse, from the same favus species, the most typical imaginable scutula, excelling in size and beauty those that were previously only obtainable in guinea-pigs. [*vide* Fig.]

In contradistinction to the greyish-yellow, crenulated scutulum of favus griseus (Favus I.) and the small cup-shaped ochre-yellow, one of favus sulphureus celerior (Favus III.), this scutulum has a yellowish-white cream colour, a smooth, slightly plicate surface, and a leather-like sheen; it is therefore well defined by these characteristics. In this particular case the scutulum was about the size of a sixpenny bit (50 pf. piece) in circumference, which completely covered, and even projected below, the right side of the mouse's head. It had broken into three parts and only a few hairs cropped up between the fissures. Each part formed an independent cup-shaped scutulum, the margins of which were slightly raised and sharply truncate; whereas the centre was depressed, showing, however, elevations varying in size. The confirmatory test was not omitted. Small particles taken from the seat of disease of the mouse still living reproduced pure cultures of favus sulphureus tardus.

It may be of interest to know that I was fortunate in producing scutula from this favus in a different way from the one I had hitherto employed. At first grey mice were inoculated directly with the pure cultures by means of lightly scratching the nape and ears, as I had observed that by far the greater number of trapped mice suffering from favus showed scutula on the head, ears, nose, and nape. The greater frequency of the disease on the nose supports the idea that it is conveyed from one animal to the other whilst feeding. I therefore have lately given up inoculation and given them the cultures to eat (Agar-peptone-lævulose). They demolished them with avidity, and it was one of these mice that was attacked by favus sulphureus tardus in the manner described above, whereas every inoculation hitherto attempted with this fungus had only produced fungus-crusts, but no scutula. Since then I do not trouble about inoculating the mice, but feed them instead, with the old cultures. It is true that the exact moment of infection is not so well determined; on the other hand, it is a more natural way, and the results are certainly more successful. Besides—and this seems to me to be the chief reason for preferring this new method—the scutula on the cheeks



Favus sulphureus tardus (Favus II.) on the cheek of a mouse. × 2.

can be much more plainly and strikingly differentiated from one another than those on the drier regions (ears and nape). I therefore tabulate here the differential diagnosis of the *scutula of the three species of favus as seen on the cheeks of the grey house-mouse*:—

I.	II.	III.
FAVUS GRISEUS.	FAVUS SULPHUREUS TARDUS.	FAVUS SULPHUREUS CELERIOR.
Scutulum, medium size (that of lentil), and thick; *surface*, slightly raised or flat, not cup-shaped; *colour*, greyish-yellow, like old wash-leather, no sheen or polish. It is permeated everywhere by fine and coarse hair.	*Scutulum*, very large, covers the whole cheek, thick; *surface*, cup-shaped, showing small elevation, and crenulated; *colour*, yellowish-white, like cream; a leathery gloss, shining in spots. The hair is repressed, so that it does not perforate it.	*Scutulum*, small size (that of a peppercorn); *surface*, cup-shaped, smooth, but no sheen; *colour*, ochre-yellow at the periphery, whiter towards the centre, horny-brown along the crenated margin. The fine hair is repressed, but it is perforated by the coarse hair.

If mice chiefly infect one another whilst feeding, the question arises, how does this happen when not in captivity, as favus does not grow in a state of nature in our climate? This has also been recently cleared up, I believe, by the observation that the dead favus victims are devoured by their companions so thoroughly that, as a rule, the feet and tail alone are left. Those mice that are favus-stricken, if the scutula are to be preserved from being destroyed, must be isolated, as they always succumb to long-standing favus. The extension of favus among mice is probably more easily explained by this means than by simple contact. For, as far as my experience goes of one mouse conveying infection to another (when not feeding), it does not appear to occur as frequently as I at first thought. When we wish, then, to spread a particular species of favus amongst captive mice (a cage of glass with wire-netting is the best) as speedily as possible, the best plan is to give them old cultures as food.

Lastly, I have to announce that, a short time ago, I obtained pure cultures of favus sulphureus celerior from a mouse caught in the Hamburg Zoological Gardens.

The three species of favus which, up to the present, Frank and I have described, form genuine scutula in mice, and two of these have been found in ordinary wild mice.

REMARKS ON UNUSUAL FORMS OF LOCALIZED ŒDEMA.

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LOCALIZED ŒDEMA, especially of the face, is an extremely common symptom. The patient is generally a middle-aged woman. There is no obvious renal or cardiac disease, and as the swelling is generally not visible at the time of the visit, the complaint is apt to be neglected.

The occurrence, however, of cases in which an apparently insignificant symptom of this nature may give rise to great anxiety or even prove fatal, has directed the attention of many observers to this point, and a good deal of information is forthcoming, although in many cases the pathology is very obscure.

Œdema consists of the accumulation of lymph in small lymph-channels or large cavities, owing to the amount poured out being greater than can be drained away by the veins or lymphatics. That the nervous system has an influence in this is shown by the experiment of Ranvier, in which the ligature of the inferior cava failed to produce œdema, except in the limb in which the sciatic nerve had been divided.

Dr. Lauder Brunton has shown that the increased permeability of the vessels which leads to œdema may be caused by acids circulating in the blood; and it can be produced also by acids applied to the vessels from without, as in Ludwig's experiment on the submaxillary gland. It can probably be caused also by acids, or poisons which act like acids, absorbed from the digestive tract, or formed by the metabolisms of the tissues. That similar poisons can be formed by microbic agency is shown by the effect of the "bacillus of malignant œdema" in mice, which is now often cultivated in our bacteriological laboratories; while recently an epidemic of "infectious dropsy" has been reported from Bengal.

Experimental evidence, then, shows that the production of œdema is not a difficult matter. This may, perhaps, account for the variety of its clinical manifestations.

For clinical purposes I would suggest the following classification of local œdema:—(1) Cases akin to, and associated with, urticaria; (2) Rheumatic; (3) Associated with neuralgia; (4) Of the Angeioneurotic type. The first class I have referred to at the beginning of the paper. There is, as a rule, very little to notice in the appearance or history of the patient; but there is generally some digestive disturbance and frequently a history, if not of regular urticaria, at least of some itching of the skin at night, and the age is generally that of the climacteric period. The hands also are not unfrequently affected. A slight degree of localized œdema under the eyes is in some cases associated with, and probably caused by, hypertrophic rhinitis, and I have seen this disappear when the swelling of the turbinated bones has been reduced.

II.—With regard to the rheumatic cases, I have at present under my care a lad about eighteen years of age, who complained of pain in the right arm and leg. When I saw him there was no apparent joint-disease, but there were some hard and painful lumps in the substance of the biceps of the left arm, and the adductor muscles of the thigh. He was feeble and anæmic, and improved quickly under treatment by iron. Moreover, painless dropsies of the joints are not uncommon in persons who are subject to rheumatism.

III.—Œdema in connection with neuralgia is frequently met with. The following case was related to me by the patient, a friend of my own. He was captain of a merchant vessel, and after suffering shipwreck, in which his right arm was injured, was laid up for some time with necrosis of the humerus, which was associated with severe cervico-brachial neuralgia. On one occasion a severe paroxysm of this kind came on, but in a few minutes the pain seemed to be transferred from the neck to the hand, and on the dorsal surface near the thumb he saw a puffy swelling rise, about the size of a walnut. This disappeared in about half an hour.

I recently saw a girl of eighteen with a hysterical contracture of the hand of old standing. This was remarkable from the fact that the hand was extensively œdematous, as well as red, glossy, and hyperæsthetic. Accompanying severe neuralgia of the head we often find a boggy condition of scalp during the paroxysms; and in this connection I may refer to the remarkable case reported some years ago by Sir James Paget, where a man, after the incautious use of very cold water to his feet, suffered from frequent "vaso-motor storms," in which the skin became red and œdematous and acutely painful.

Akin to these, again, are the cases related by Dr. Ord in his address on Medicine at the Belfast meeting of the British Medical Association, in which a painless, but extensive, hydrarthrosis of the knees seemed to be associated with irritation of the prostate.

IV.—By far the most interesting and remarkable instances of œdema caused by nervous influences are the cases, of which there are now many on record, known by the name of angeioneurotic œdema. This term, originally applied to the condition by Quincke, seems preferable to calling it by the name of that observer.

In this disease we have sudden severe, but transitory, swellings, generally pale, but occasionally red, in all parts of the body. Greater attention is drawn to them when the face is attacked; but in no small number of instances the glottis has been involved, with symptoms of suffocation which have occasionally proved fatal. The internal organs are also attacked, and severe intestinal symptoms, with colic and melæna, and sometimes albuminuria, have been frequently noted.

The following case illustrates one form of this curious affection.

I.—W. B., aged 50, a labourer, was seen in the out-patient department of the Leeds Infirmary, complaining of swellings in the face, body, and hands. Four months before he had an injury to his toe, which was followed by swelling of the leg and great itching. Ever since he has been troubled by large hard patches, which rise frequently in various parts of the body, and last from twelve to fourteen hours. Occasionally his tongue will swell in similar fashion, and he feels himself in danger of choking.

II.—A man about 28 applied, suffering from transient swellings in various parts of the body. On one occasion his throat was affected, and for many hours he seemed on the point of death from suffocation. On the last occasion the œdema was confined to one side of the neck.

A similar case, in which the larynx was affected, has been recently noted by Dr. Wardrop Griffith (*vide* list of references). In neither of the cases recently under my care was any note made of a hereditary predisposition, but in many of these cases there is a clear history of inheritance. The most remarkable series of hereditary neuroses of this kind is related by Osler, who was fortunate enough to find an angeio-neurotic grandfather of great age and intact memory, from whom he obtained particulars of no less than five generations of the same family who were more or less affected with this curious peculiarity. The affection usually showed itself about puberty; and, in two cases, had caused death by attacking the glottis. There were also acute intestinal disturbances, colic and vomiting, pointing to similar conditions affecting the viscera. In several there were well-marked attacks of urticaria. There were no symptoms in any of the family of Raynaud's disease, nor of chilblains; but most of them suffered from cold feet. In these cases the parts most generally affected are the face and extremities: there is little or no pain, and no danger to life, except where the glottis is attacked. It affects persons of neuropathic tendency and is strongly hereditary. It is capricious in its attack; but, in many cases, the immediately exciting cause seems to be an injury—frequently very slight.

In connection with the question of injury and visceral complications Paget makes the pregnant suggestion, with regard to the case referred to above, that if we have vaso-motor storms thus affecting external parts which we can see and handle, it is reasonable to suppose we can by the hypothesis of similar attacks affecting internal parts, explain some of the apparently causeless paroxysms of visceral pain of which neurotic persons so frequently complain.

That in some cases even more than pain and vomiting results from attacks of this kind is seen by the history of a case recorded by Dr. J. J. Pringle, in which sudden attacks of hematemesis were noticed in an elderly man, of gouty temperament and subject to urticaria, but free, so far as could be ascertained, from organic disease. (*Clin. Soc. Trans. XVIII.*)

We have hardly, as yet, arrived at a stage in which we can give any adequate pathological account of the above phenomena. Assuming the theory of local vaso-motor paralysis as a working hypothesis, the details of acute functional œdema do not stand alone. The simple blush of the cheek, the heats and flushes of the climacteric period, and the œdema which so often accompanies urticaria, are sufficiently common illustrations, while exposure to cold, as in Paget's case, or an ordinary frost-bite, are well known to cause similar conditions.

Dr. Wilks has formulated the theory of a "mad semi-lunar ganglion" to explain the abdominal neuroses of a hysterical woman, and the idea of local lunacies is at least suggestive.

No treatment has been found of much avail directed purely to the phenomena of angeio-neurotic œdema. I have thought some of my patients benefited by arsenic. Dr. Osler's cases had suffered many things and most drugs from five generations of physicians, but had little favourable to report. Œdema of the glottis may prove fatal; on the other hand, knowing how rapid is sometimes the recovery from the œdema, the surgeon should stay his hand until the case is really urgent.

The following list comprises most of the published cases:—

Quincke.—Monatschr. f. Praktisch. Dermatologie, 1882.
Dinkslater.—Ueber Acutes Œdem. Kiel, 1882.
Jamieson.—Edinburgh Med. Journ., 1883.
Graham.—Canadian Practitioner, 1885.
Riehl.—"Acute Circumscribed Œdema," Aus. d. k. k. Ger. de Aerzte, 1887. No. 24. (Abstract in Med. Record, 1887, p. 549.)
Strübing.—Zeitschr. f. Klin. Med., IX. (Med. Rec., 1887, p. 33.)
Matas.—New Orleans Med. Journal, Oct., 1887.
Goltz.—Deut. Med. Wochenschr., 1880, 17.
Osler.—Internat. Journ. Med. Sciences, 1888, p. 362.
Küssner.—Berlin Klin. Wochenschr., No. 16, 1889.
Keefe.—"Irregular Œdema Complicating Malaria," Boston Med. Journ., 1889, May 16.
Simon.—John Hopkins Hosp. Reports (Neurology), 1891, I. 6.
Bauke.—Berlin Klin. Wochenschr., Feb. 8, 1892.
Falcone. - Gazett d. Ospitali, Feb. 24, 1886.
Griffith.—Brit. Med. Journ., Dec. 19, 1891.
Landon.—Arch. d. Heilkunde, Bd. XV. ("Intestinal Affection in Children akin to Angeio-neurotic Œdema.")
Couty.—Gaz. Hebdomadaire, 1876.
Henoch.—Berlin Klin. Wochenschr., 1876. (Urticaria Porcellana.)
Juler.—Cincinnati Lancet and Observer, 1878.

CLINICAL NOTES.

FOUR CASES OF SENILE TUBERCULOSIS OF THE SKIN.

BY T. COLCOTT FOX, M.B.,

Physician for Diseases of the Skin at Westminster Hospital.

PROFESSOR KAPOSI writes of lupus vulgaris that, "apart from rare exceptions, the disease appears in infancy rarely before the third year, and thence to puberty; very exceptionally, either as a persistent lupus, or as a recurrence, at a more advanced age, even as late as seventy years." Mr. Jonathan Hutchinson says, "lupus vulgaris is not a disease which attacks infants or young children, as a rule, but it waits till childhood is well advanced, or even puberty is passed. We often see it begin at or after middle age, and, in a few instances, in advanced years." Judging by the statistics published, lupus and scrofuloderma must be very uncommon after fifty years of age. We know, in these days, that tuberculosis may attack elderly people, and Sir James Paget called attention to the subject, under the heading "Senile Scrofula," in his collection of Essays. Lately Mr. Howard Marsh has read a paper on "Senile Tuberculosis," and mentioned fourteen cases, in which the knee (2), the hip (4), the spine (4), the wrist (2), and the testes (2) were involved respectively. I, therefore, record the following four cases of tuberculosis of the skin, which commenced after sixty years of age.

CASE I.—Margaret S., æt. 64, came under my care in February, 1890. She stated that four years previously, her hand being quite healthy, she fell against a hot bar and burnt her left hand near the cleft of the index and middle fingers. The sore did not heal properly, but a "little wart tumour" grew on the spot. A medical man treated it with iodine-painting for two years, but the growth gradually spread, and, when she came under my observation, it occupied about a quarter of the area of the back of the hand. There was a dusky, friable infiltration of the skin, surmounted by a moderate degree of hypertrophy of the epithelial layers of the skin, characteristic of the condition known as lupus verrucosus. The infiltration extended just beyond the warty zone, showing apparently that the epithelial hypertrophy was secondary. There was no outlying satellite, and no scarring. Here and there was evidence of degeneration, and a little creamy pus could be squeezed out. The patch was thoroughly scraped ; but in March, 1892, the patient presented herself again with the lupus healed over most of the parts formerly affected, but spread to an equal extent across the hand to the ulnar side. One or two typical semi-transparent, brownish-red, smooth nodules were now detected on the spreading border, and a gland was considerably enlarged just above the inner condyle of the elbow. A section of the skin disclosed the characteristic appearances of lupus, but no tubercle bacilli were detected in the limited number of sections examined.

It is a suggestive circumstance that, at the time of the first appearance of the lupus, the patient was nursing her husband and her daughter, who were dying of phthisis.

Case II. was a very similar one in many respects, but my notes are not so full. Mary H., æt. 73, was brought under my notice in February, 1892, by my colleague, Mr. Stonham, with extensive lupus verrucosus of the back of the left hand, the fingers, and thumb. There was the characteristic epithelial hypertrophy and plaster-like crusting over the greater part of the friable infiltration. Towards the wrist was a rounded area bearing a striking resemblance to an epithelioma. In the centre of the back of the hand there was an absence of epithelial hypertrophy, and the condition was characteristic of "lupus exfoliativus." One or two characteristic miliary, semi-transparent nodules were detected at the border. The growth left scars, and here and there a little creamy pus could be squeezed out.

The history given was, that four years previously she burnt her hand, and two years later a swelling was noticed in the scar, which gradually spread.

Case III. might be considered to fall under the old denomination of scrofuloderma. James G., æt. 82, came under my care in January, 1892, with a rounded, ringed patch of disease, the size of the palm of the hand, on the back of the right wrist and lower third of the right arm. It commenced in November, 1891, as a small nodule, and spread centrifugally, so that, when I first saw him, the centre was healed and the peripheral part was formed of a border, considerably raised, nearly an inch wide, forming a complete ring. This spreading border is formed of a friable, violaceous infiltration, the inner two-thirds being surmounted with epithelial hypertrophy and dirty, dark-greenish crusts entangled in the warty condition. Here and there are indications that this border is built up of confluent nodules the size of the finger-nail. Creamy pus can be squeezed out in places. The healed central part is not obviously scarred, but there is probably superficial scarring, marked by slight desquamation and venous congestion.

I could not get any clue to family history of consumption, or to any source of inoculation. The opinion being expressed that, possibly, the disease was syphilitic, I administered five-grain doses of iodide of potassium for a month, without producing the slightest effect on the growth. The spread of the patch was certainly more active than is usually seen in senile scrofuloderma. (Shown at Dermatological Society.)

Case IV.—John F., æt. 64, came under observation in May, 1888. He was out of work, feeble, worn, thin, and living in a wretched underground room in circumstances of much poverty and misery. His skin was unusually pigmented, of a marked brown colour. The greater part of the back, from the neck to the waist, was thickly covered with lesions from a hazel-nut to a split walnut in size. A few extended to the under and back part of the upper arms, to the buttocks, and the clavicular regions. Duration of the disease—two years. The lesions closely resembled some of the "scrofulous gummata" when involving the upper layers of the skin. They were rounded or oval, dusky in tint, and slowly broke down and suppurated, leaving conspicuous white scars, which contrasted with the surrounding pigmentation. The scars were most irregular, so that, as the whole back became riddled with abscesses, the surfaces became brindled with a lace-work of prominent scar-ridges and bands. The lesions were mostly discrete, but confluent in several places. A few acneform pustules were present. No enlarged glands were detected, nor was any visceral disease made out. There were no comedones. There was no clue to syphilis, and iodide of potassium had no curative effect. I placed him, eventually, on sulphide of calcium pills, and this drug seemed to be remarkably effectual, for the back improved wonderfully. A few months later Dr. Lewis Lewis kindly informed me that the man had died of asthenic pneumonia.

The diagnosis in this case exercised me very much; but, I believe, it must be considered as a case of "senile scrofuloderma." (Shown at Dermatological Society.)

LUPUS AND SENILE STRUMA.

BY TRAVERS R. M. SMITH, M.D.,

Medical Officer to Kilburn Dispensary.

In 1866, when Mrs. W. was 45 years of age, a small pimple made its appearance at the end of her nose. It very slowly but steadily increased in size till the whole organ was invaded by lupus. In 1870 the disease had already attacked the cheeks, the forehead, the eyelids, the scalp, and the ears, cicatrizing in some places and spreading in others. The skin of the arms became subsequently affected, mainly about the elbows.

The conjunctivæ of both eyes had meanwhile become engaged; the corneæ followed, and a condition like that of pannus was set up. It was, however, impossible to decide how far this was due to lupus, for *pari passu* with the keratitis there was a progressive entropion due to gradual erosion of the upper eyelids.

The cartilages of the nose and of the pinnæ of the ears had the same fate, and were ultimately completely destroyed.

In 1877 patches of lupus appeared on the left foot, and in 1887 the left knee, which for years previously had been "weak and relaxed," compelling her for months together to keep her room, became swollen, hard, and painful. The head of the tibia retracted as the joint became more and more immovably fixed in the flexed position, and soon all the characteristics of "white swelling" were present. The skin over it became red and glazed in two places, gave way, and round ulcers were formed similar in appearance to the ulcers on the arms.

The painful spasms and startings of the limb, especially during sleep, made the life of the victim such a burden that it was thought advisable, notwithstanding her advanced age and weak state, to amputate. In February, 1889, accordingly the leg was removed at the level of the lower third of the femur. The patient made a capital recovery. Dry dressings were used, and there was healing by first intention, except for a distance of about one half inch.

Mrs. W. died exactly three years after the operation, in her 71st year. Nothing special developed in the interim except a chronic subcutaneous abscess about the size of a hen's egg behind the left shoulder. It was evacuated and healed up.

All that is known about the family history is that her father had a "very scurfy skin," and was asthmatic, and that her mother was very delicate and "sickly." Mrs. W. married at 25, had no children, and suffered from chronic leucorrhœa during the first years of her married life.

CURRENT LITERATURE.

CLINICAL, ANATOMICAL, PATHOLOGICAL AND EXPERIMENTAL RESEARCHES ON THE COMBINATION OF SCROFULO-TUBERCULOSIS AND SYPHILIS, ESPECIALLY AS THEY AFFECT THE SKIN. PROF. LELOIR. (*Journal des Maladies Cutanées et Syphilitiques*, September, 1891.)

This work of Professor Leloir claims to have settled an important question in dermatology, viz., Is there such a disease as syphilitic lupus? Can the process of lupus and the process of syphilis proceed together in the same place, producing a dual disease? M. Leloir says yes, and thinks it can no longer be questioned.

This conclusion has been arrived at by a slow and painstaking research, extending over many years. The hybridism of these diseases, as they affected lymphatic glands, was demonstrated by him in 1887. He proved, by means experimental, histological, bacteriological, clinical and therapeutic, that sometimes lymph-gland disease occurred in syphilitic patients, which was a manifestation not of syphilis only but of scrofulo-tuberculosis in conjunction with syphilis. When this conjunction happened, the ordinary indurated gland passed into a condition of chronic suppuration. Antisyphilitic treatment brought about partial cure, but a portion of the disease remained incurable by the most energetic antisyphilitic remedies. In order to complete the cure, antiscrofulo-tuberculosis treatment was necessary. The demonstration of a dual disease of the skin is a later development of this research. His argument rests on a *thorough* examination of a single case in 1890.

His patient had tubercular ancestors; had also the actual manifestation of scrofulo-tuberculosis in herself, and had acquired syphilis in her twenty-fourth year, just ten years before consulting M. Leloir.

The lesions were situated on the right side of the neck, in the form of papulo-tubercles, as big as half a hazel-nut, hard to the touch, of a coppery-red colour, and much elevated above the surrounding skin. Diagnosis:—hypertrophic tubercular (nodular) syphilide.

ACTION OF ANTISYPHILITIC TREATMENT.

Under the influence of iodide of potassium and subcutaneous injections of soluble mercurial salts, a considerable number of these papulo-tubercular lesions had disappeared completely. But some lesions remained which no antisyphilitic treatment would remove; these were cured by antiscrofulo-tuberculosis treatment, namely, cautery, scraping, and parasiticide injections.

HISTOLOGICAL, BACTERIOLOGICAL AND EXPERIMENTAL RESEARCHES.

A.—*Before the Action of Antisyphilitic Treatment.*

Under the microscope the disease strikingly resembled myxomatous lupus (variety of lupus vulgaris), but it might have passed for a gummatous syphilide. It was difficult indeed to decide between them. The walls of the arterioles were thickened, the derma sclerosed in parts (syphilide characters), but the presence of giant-cells and a few tubercular bacilli showed that the lesions had likewise a tubercular character.

B.—*After the Action of the Antisyphilitic Treatment.*

A notable change in the neoplasm had occurred. It had now all the characters of lupus, but of a peculiar kind of lupus. These were the little masses of embryonic cells, giant-cells, and a few bacilli, but lying in the meshes, and everywhere surrounded by a fine network of fibres.

A morsel of one of these tubercles metamorphosed by the antisyphilitic treatment was inoculated into the peritoneal sac of a guinea-pig. After six weeks the animal was suffering from general tuberculosis.

These researches then proved absolutely that what remained of the disease after antisyphilitic treatment was not syphilis, not even a hybrid of syphilis, scrofula and tuberculosis, but lupus enveloped in a fibrous reticulum.

IMPORTANCE OF THE PRECEDING FACTS.

1.—*As a Demonstration of the Hybrid Nature of the Disease—Scrofulo-tubercular and Syphilitic.*

This is the first case of hybridism between syphilis and lupus in the skin which has yet been published and demonstrated.

The two germs were flourishing side by side, and produced a dual disease. This has never before been demonstrated with the fulness and completeness of the present research.

This true hybridism is to be distinguished from accidental coincidence of two different diseases, as, for example, when the syphilitic virus enters the body through a tubercular ulcer, or the tubercle germ through a syphilitic ulcer.

2. *Importance from the Doctrinal and Diagnostic Point of View.*

This work of Leloir's must influence doctrinal dermatology. Many of the old dermatologists asserted openly that there was such a disease as syphilitic lupus. Now this is denied rather generally. But every experienced dermatologist is acquainted with lesions which even his trained eye cannot distinguish from a syphilide; and also with lesions which the masters of dermatology would consider to be lupus, which are ameliorated or cured by internal antisyphilitic treatment. Are not these cases examples of hybridism between syphilis and lupus?

8. *Importance from the Therapeutic Point of View.*

It is necessary to employ mixed means for treating mixed diseases—antisyphilitic and antiscrofulo-tubercular.

THE PATHOGENY OF THE HYBRID AFFECTION,

is speculative and therefore uncertain. The author is specially brief here, but advances three possible hypotheses. Summarily:—that the syphilide or tubercle lesions pre-existed alone, and were subsequently inoculated with either the tubercle germs or syphilitic virus.

EXPERIMENTAL RESEARCHES ON THE INOCULATION OF SCROFULO-TUBERCULAR PRODUCTS, AND IN PARTICULAR OF LUPUS VULGARIS.

The tubercular nature of lupus vulgaris was clearly demonstrated by experimental pathology.

This alone could establish as a scientific fact what the clinical and histological work of Volkmann, Besnier, Friedländer, Kœster, Leloir, Cornil, Renaut, etc., had shown to be probable.

Leloir's first attempts at inoculation were failures. He had to learn that success depended on the kind of animal, the quantity of morbid tissue inoculated, and that the body of the animal was not a homogeneous soil of the same fertility throughout, but that certain parts of it made better soil for the bacillus than others. Thus, in the rabbit the anterior chamber of the eye affords the best soil, and in the guinea-pig it is the peritoneal sac.

He found that lupus inoculated in this way in the rabbit and guinea-pig produced undoubted tuberculosis, which could be transmitted by serial inoculations to successive animals. The proof was strengthened by the discovery of tubercle bacilli in inoculated animals. But lupus is a non-virulent form of tuberculosis—hypodermic inoculations from it will not take, as those from true tuberculosis will. The time between inoculation and general infection varies; in the rabbit it is about fifteen days, in the guinea-pig about six weeks to two months.

The lupus tuberculosis is distinguished from ordinary typical tuberculosis by the following:—

The small number of bacilli.
The necessity of inoculating large pieces.
The necessity of inoculating into a favourable medium.
The necessity of inoculating a favourable animal.
The slowness of infection of the animal.

H. LESLIE ROBERTS.

INFLUENCE OF ERYSIPELAS ON MALIGNANT TUMOURS.

Nine cases are described Dr. W. B. Coley (*Annals of Surgery*, October 1891). All were sarcomata. In one, which had recurred five times in three years, after an operation a gaping wound, five inches by two inches in size, was left behind, and from the base of this sarcomatous granulations soon sprang up. A fortnight later the patient was attacked by a very severe outbreak of erysipelas in the face, and a second outbreak soon followed, during which the granulations disappeared, and the wound healed. No recurrence has taken place during the seven years which have since elapsed. Three other cases were completely healed, four improved, one was still under treatment.

Three theories have been put forward to explain this action of erysipelas: (1) the supposition that the coccus has a direct destructive action on the cell-elements of the new growths; (2) the theory that the high temperature suffices to destroy the cells of lower vitality, so that they undergo a fatty degeneration, and resorption takes place; (3) the theory that the sarcomata and carcinomata are of parasitic origin, and that the microbe of erysipelas exercises a directly antagonistic effect on the cancer bacilli. (*Deutsche Med. Zeit.*, 5, 1892.) H. S. B.

CASE OF LUPUS VULGARIS CURED BY ERYSIPELAS. ALFRED A. FALKENBERG. (*Khïrürgitcheskaia Letopis*, 1891, No. 2, p. 169.)

Dr. Falkenberg, house surgeon to the Moscow Military Hospital, communicates the following remarkable case of "*erysipelas medicatrix*." On May 3rd, 1891, a soldier, aged 24, was sent to the hospital in order to be subjected to a course of tuberculin treatment for facial lupus. On examination the whole left side of his nose, the nasal septum and the adjacent areas of the upper lip and cheek were found to be congested, infiltrated, and covered with thick scabs, nodules and small ulcers, the latter presenting elevated, uneven edges, "as if eaten out." The axillary glands on the left side were slightly enlarged, but otherwise there could be nothing abnormal detected about any organs. According to the patient's statement, he was the offspring of a healthy family, and himself had remained well until a year and a half previously, when he had noticed a small "pimple" on the left side of the nose. He squeezed it out, but the nodule never healed, while there gradually cropped out fresh tubercles which ultimately involved the whole area mentioned above, some of them breaking up and forming ulcers. From January 16th, 1891, up to the time of the admission, the young man was treated by an ointment of white precipitate and subnitrate of bismuth, then by mercurial plasters, and ultimately by subcutaneous injections of an iodoform and-guaiacol emulsion (with vaseline and olive-oil), the disease continuing to progress notwithstanding all these measures.

On May 12th (before any injection of tuberculin had been made) he fell ill with a severe attack of typical erysipelas, which commenced over the lupus area, but rapidly spread over the whole face and scalp, being accompanied by high fever (up to 41° C.), delirium, weak pulse, involuntary defæcation, etc. From the beginning of the attack the lupus region became intensely red and tumefied, while there appeared a constant discharge of a serous fluid which dried up into crusts; in other words, the local phenomena closely resembled those usually observed after injections of tuberculin. On the seventh day of the inflammation there was noticed some hæmorrhage from lupus nodules. On the twelfth day the erysipelatoid process subsided, the patient's general convalescence, however, advancing rather slowly and being somewhat retarded by the consecutive formation of three abscesses on the left side (in the temporal and submaxillary regions and on the cheek). On June 11th all crusts fell away, leaving a sound surface. When shown to a medical society, on June 27th, the patient proved to be absolutely free from any lupus lesions. The site of the ulcers was occupied by radiated somewhat depressed scars, the intervening and surrounding skin being smooth, soft and pliable. The nose retained quite its normal form. VALERIUS IDELSON (Berne).

A CASE OF FATAL PELIOSIS RHEUMATICA. Dr. SERGHEI A. LENTOVSKY. (*Meditzinskïa Pribavlenïa K' Morskomü Sbornikü*, July 1891, p. 57.)

Dr. Lentovsky, of Cronstadt, gives details of a case of Schoenlein's rheumatic purpura, resulting in death. A diver, previously generally healthy, aged 38, shortly after he had accidentally fallen into water, was seized with aching pains about his lower limbs. On the next day he noticed a rash on the inner aspect of the left thigh, which rapidly spread downwards over the leg and simultaneously appeared on the right arm, the legs at the same time becoming swollen. On examination on the sixth day, the thighs, legs, and dorsal surface of the feet were found to be studded with purpuric, elevated, sharply circumscribed patches, varying in size from a hempseed to a threepenny piece. The knee-joints were enlarged, tender and painful. During the subsequent days fresh crops of the rash came out fairly frequently, each efflorescence being preceded by an exacerbation, and followed by a remission of articular pain. On the seventeenth day there supervened a very rapidly progressing angina Ludovici. On the eighteenth the patient died, in spite of tracheotomy. The necropsy revealed the presence of bright-red ecchymoses in the pharyngeal and laryngeal mucous membrane, enlargement of the liver, very flabby spleen, congestion of the kidneys, intense congestion and thickening of the synovial membrane of the knee-joints, with a scanty effusion into the articular cavities. The heart was dilated, and its muscle substance somewhat flabby, but the valves were perfectly healthy.

[The author has published, a few months previously, another case of rheumatic peliosis (*ibid.*, February, p. 117), referring to a prostitute of 26, and ending in complete recovery He has been able to find in the Russian literature only eight other cases of this obscure disease, of which six referred to female patients, aged 4, 6, 10, 10, 22 and 47 respectively, and two to males, aged 22 and 24. All recovered. One of the cases may be found in the BRITISH JOURNAL OF DERMATOLOGY, May 1890, p. 165.—*Rep.*] VALERIUS IDELSON (Berne).

ICHTHYOL IN ERYSIPELAS. MIKHAIL M. ALEXEEFF. (*Meditzinskoië Obozrenïë*, No. 18, 1891, p. 562.)

Dr. Alexeeff, of Kniaginin, again emphatically draws attention to the fact that ichthyol affords a most powerful agent for destroying the vitality of the streptococci of erysipelas. The author tried the remedy (covering the diseased area with a mixture of equal parts of ichthyol and vaseline) in thirty consecutive cases of the affection, and invariably obtained most brilliant results (*cft.* the BRITISH JOURNAL OF DERMATOLOGY, September 1889, p. 383; August, p. 355; November, p. 157). VALERIUS IDELSON (Berne).

CARBOLIC ACID AND OIL OF TURPENTINE IN ERYSIPELAS. ALEXANDR V. TRAPEZNIKOFF. (*Meditzinskoië Obozrenïë*, No. 18, 1891, p. 562.)

Dr. Trapeznikoff, of Dinaburg, publishes twenty cases of erysipelas (mostly of the face) which he treated by painting the affected parts with a solution of carbolic acid (one drachm) in turpentine-oil (three ounces), the procedure being repeated hourly, or, in some instances, even every half-hour. In such cases (three in number) where the treatment was commenced on the second day of the disease, the temperature returned permanently to the normal on the following day. In the remaining cases which had come under the writer's care on the fourth or fifth day of the symptoms, the convalescence set in from six to ten days (*cft.* the BRITISH JOURNAL OF DERMATOLOGY, May 1889, p. 242; October, p. 430; and December, p. 494). VALERIUS IDELSON (Berne).

THERAPEUTIC NOTES.

STYPTIC COLLOID IN ECZEMA.

In "The Asclepiad," Vol. VIII., p. 338, 1891, Dr. B. W. Richardson writes:—"Shortly after I first began to bring styptic colloid into practice, I employed it as an external application in eczema; and I have continued the practice until the present time with every reason for satisfaction. In one instance I painted three parts of the surface of the body of a patient, suffering from subacute eczema, with the colloid, and by that means afforded a relief which every previous application had failed to give. The colloid may be freely applied with a soft brush over the affected surface. It forms a loose scale mingled with the cutaneous scales and exudation; it causes no irritation, and it may be repeated once daily so long as it is required. Applied to the face it lessens rather than increases the disfiguration. It desquamates, so to speak, from the part covered with it, leaving, ultimately, a natural surface beneath without sign of scar or mark."

In Squire's "Companion to the British Pharmacopœia," *Styptic Colloid* stated to consist of "a saturated solution of tannic acid and xyloidine or gun-cotton in absolute alcohol and pure ether. In the first step of the process, the tannic acid, rendered as pure as it can be, is treated with absolute alcohol, and digested in it for several days. Then the pure ether, also absolute, is added until the whole of the thick alcoholic mixture is rendered quite fluid. Lastly, the xyloidine is added until it ceases readily to dissolve. A little benzoin may be added to give an agreeable odour to the colloid.

"It can be applied directly with a brush, or mixed with an equal quantity of ether, and used in the form of a spray."

EUPHORIN.

G. Peroni and R. Bovero (*Giornale della academia de medicina de Torino*, 6, 1891) have experimented with this drug, and come to the following conclusions:—(1) Euphorin almost aborts the suppurative process in breaches of continuity; (2) it removes in a very short time the stink which accompanies some syphilitic sores; (3) it hinders the propagation of the poison from syphilitic ulcers to the inguinal glands; (4) it possesses a not inconsiderable analgesic effect. (*D. Medizinal Zeitung*, 5, 1892.)

TRICHLORACETIC ACID AS A REMEDY IN SOME SKIN DISEASES.

Dr. Lanz, of Moscow (*Monatshefte f. praktische Derm.*, Bd. XIII. 7), has revived the use of this almost forgotten caustic with very good results. A 20% solution applied through the endoscope in chronic *gonorrhœa* caused much less irritation than much weaker solutions of silver nitrate. When applied undiluted to *papillomata* it formed at once a white, dry, adherent scab, which fell off after a few days, leaving a clean granulating surface behind. In larger papillomata it is necessary to repeat the application. *Warts* undergo the same process, and fall off after a few applications. *Nævi* and *pigmentation* patches have also been successfully treated by painting on the pure acid or diluted solutions.

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MONILIFORM HAIRS (MONILETHRIX).

BY WALLACE BEATTY, M.D., F.R.C.P.I.,
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AND
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Professor of Physiology, Royal College of Surgeons, Ireland.

WE have divided our subject into three parts:—

PART I.—A REVIEW OF ALL PREVIOUSLY RECORDED CASES, AND A NEW CASE, BY DR. WALLACE BEATTY.

To Walter Smith belongs the entire credit of having first made known this affection of the hair. He described his first case at the meeting of the British Medical Association held in Cork in 1879.* Liveing, six or seven years before, had observed a similar case, but it remained unpublished until May 1st, 1880, when Walter Smith, at Liveing's request, published it, along with a second case of his own.† Walter Smith described the affection under the title of "A Rare Nodose Condition of the Hair."

Liveing called his case, "Nodose Malformation of the Hairs of the Scalp." McCall Anderson, in describing cases which came under his notice about three years afterwards, uses the term "Trichorexis

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* *Brit. Med. Journ.*, vol. ii. 1879, p. 291.

† *Brit. Med. Journ.*, vol. i. 1880, p. 654.

Nodosa," considering that this term is much more applicable to the condition than to that to which it is usually applied, as "the hairs are really nodose as well as brittle."* Crocker† uses the name "monilethrix," which has the advantage of being short, and which expresses very well the clinical appearances. Behrend suggests the cumbrous pathological definition, "Aplasia Pilorum Intermittens seu Moniliformis," on the ground that the aplasia, as pointed out by Virchow, is the essential part of the disease, and not the nodosities.‡

Before describing my case, I shall review the cases of the disease which have been published up to the present.

CASE I.—Walter Smith's first case.§—Mary M., a dressmaker, aged 19, of fair complexion, with dark hair. She had "ringworm" at the age of three; with that exception she had never suffered from any disease of the skin. There was no history of syphilis. Up to the age of fifteen she possessed "good long hair" down to her shoulders; about that time she began to shed the hair. The catamenia set in between fifteen and sixteen years of age after the hair had begun to fall. The head became scurfy. At times the skin was itchy, and became tender. Shortly after the hair commenced to fall she had scarlatina. The thinning of the hair was worse afterwards than before the fever.

Over the whole scalp the hair was uniformly thinned, although nowhere was there complete baldness. The longest hairs measured about five inches; they could be readily extracted without pain, and their free extremities appeared sharply broken off. Many of the hair-follicles projected so as to form pale or pink elevations, most numerous about the nape of the neck. The hair was very dry, of an uniform dark colour, and felt crisp to the touch. On close inspection, it was observed that many of the hairs were bent abruptly at a right angle, and that the length of the hairs was very unequal. The hairs, especially the shorter hairs, exhibited an appearance consisting of a regular beading, or succession of swellings, along the shaft, commencing immediately above the root. The nodes were fusiform, dark throughout, or pale in the lower segment and black in the upper; whenever the hair was broken, as often happened, the fracture always occurred at an internode. On an average one node went to each millimetre of length of hair. Each node would seem to represent about two days' growth. Scattered over the head were also many short, club-shaped stumps, representing single nodes implanted in the skin, and the root-ends likewise were pointed. On some of the longer hairs small bits were split off longitudinally about their middle. The eyebrows were thin, but no beaded hairs could be detected either among them or among the eyelashes. The axillary hairs were scanty, but appeared normal.

The microscopical examination of the hairs was made by the late B. Wills Richardson, and revealed the following condition:—

Scarcely a trace of scale imbrication was seen on the nodes, but it was tolerably well marked in the concavity of the narrow parts between the nodes. Brown pigment was deposited outside the axis in streaks, and chiefly in the nodes; and thus each hair, to the naked eye, appeared as if checked alternately brown and white. There was no trace of cells in the axis of the nodes. The average diameter of the nodes was one two-hundredth of an inch, of the constrictions one five-hundredth of an inch. Some of the hairs which, macroscopically, appeared of uniform diameter, were seen under the microscope to present slight fusiform swellings, and every gradation existed between an almost perceptible enlargement of the shaft and a large spindle-shaped bulb. The great majority of the hairs presented an unbroken contour, but a few of them exhibited longitudinal splitting and sometimes transverse fracture of the cortex, and an irregular brush-like appearance at a bend in the shaft. The extremities of some of the hairs terminated in a tuft of fibres, but there was no evidence of bursting of the nodes, as in trichorexis.

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* *Lancet*, vol. ii. 1883, p. 140.

† Crocker, "Diseases of the Skin," p. 600.

‡ Behrend, "Ueber Knotenbildung am Haarschaft."

§ *Brit. Med. Journ.*, vol. ii. 1879, p. 291; and vol. i. 1880, p. 654.

Case II.—Liveing's case, published by Walter Smith.*—A girl, aged 12 or 13. Her hair had never grown in a satisfactory way. The scalp was covered with scattered hairs, short, and of a dark colour, and some of them, though thin, were crisp in texture; many of them appeared more or less twisted. The general appearance was that of partial baldness of a peculiar kind, none of the hairs attaining anything like their natural length or texture. Under the microscope the appearance of the hair was as if formed of a number of spindle-shaped swellings, disposed on many of the hairs with great regularity. The hairs were more opaque than normal, and presented a dark contour.

Case III.—Walter Smith's second case.†—Thomas W., aged 7. A healthy-looking child of fair complexion. The scalp was scurfy, and uniformly covered with short hairs. (The head had been shaved some weeks previously.) The hairs presented the characteristic moniliform aspect, as if a number of dark spindle-shaped beads were strung on a thread. Under the microscope alternate swelling and constriction of the medullary substance were perceived. The pigment was scanty or almost wanting in some specimens, but still the nodes were the darkest portions. In several specimens, irregular, transverse and longitudinal cracks in the cortex were visible, and some of the broken extremities showed a brush-like tuft of fibres. The great majority of the shorter hairs were nodulated, this peculiarity being most marked in the region about the ears. No trace of nodosity was discernible by a lens in the eyebrows or eyelashes.

Case IV.—Thin's case.†—Maria Style, aged four years, the second of five children. The father was healthy, but the mother had been completely bald from birth. The hairs in the other children were natural. When this child was about five or six months old, her mother began to notice that the hair came off when the head was being washed. When Thin saw her the head was covered with short, dry hairs, which came out easily and freely when subjected to a very slight traction. On the back of the head, forward as far as the ears, and on the back part of the vertex, the hairs measured from a sixteenth to a quarter of an inch long. The longest hairs were on the fore part of the vertex, where the longest were nearly three inches long. Towards the forehead they became shorter, being about an inch long, and less. All over the head the hairs were hard and rough to the touch, the scalp feeling like a pig's skin. The hairs when examined under the microscope were seen, many but not all of them, to be varicose in outline, being distinguished by alternate swellings and constrictions.

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* *Brit. Med. Journ.*, vol. i. 1880, p. 654.

† "A Case of Congenital Abnormality in the Hair-Production on the Scalp," *Trans. Internat. Med. Congress*, 1881, vol. iii., p. 190.

CASES V. AND VI.—Kaposi's cases.*—In the discussion which followed Thin's paper Kaposi stated that he had seen two such cases, which he believed were referred to as lichen pilaris in his last work on skin diseases.

CASES VII., VIII. AND IX.—Vidal's cases.*—Vidal stated that he had seen two cases in children, aged four and ten years respectively. The affection seemed to be congenital. The scalp was very dry, the sebaceous system appearing ill-developed and, maybe, atrophied.

Vidal found atrophy of the sebaceous glands in an adult suffering from seborrhœa sicca, whose hair, especially over the temples, was broken and twisted in a similar manner.

CASE X.—Unna's case.*—Unna had met with the same affection in a young lady, but limited to the vertex. It came on after nervous shock, and somewhat resembled alopecia, but there was great dryness of the skin, with a coarse wiry condition of the hair, and the scalp was decidedly indurated.

CASE XI.—Bulkley's case.*—A boy, aged six years, affected since earliest infancy. He presented a characteristic lichen pilaris, and upon the arms the hairs were all surrounded by pointed epidermal accumulations, the same occurring to a very slight degree about the hairs of the scalp, where they existed, although they were very scant and brittle.

CASE XII.—Bury's case, reported to the Manchester Medical Society, February 7, 1883.†—A boy aged seven. The hair of the scalp was thin, dry, brittle, and very short; the average length of the hairs was from half to a quarter inch. All the hairs, on close inspection, looked beaded. Under the microscope, the shafts were seen to be made up of alternate constrictions and fusiform swellings. The condition had existed from infancy.

CASES XIII., XIV., XV., XVI. AND XVII.—McCall Anderson's cases.‡—Mr. James B—— senior, a farmer from the south of Scotland, consulted McCall Anderson with regard to his son James, aged three years and a half, on account of defective growth of the hair, implicating the greater part of the head, a condition which, as in the other members of the connexion about to be referred to, was congenital, or nearly so. The disease presented all the characters of the second variety of trichorexis nodosa, and the father himself was similarly affected. He informed McCall Anderson at the same time that his daughter Maggie had the same disease; her hair, when examined, exhibited the same nodose condition. Some time after this Mr. William B——, brother of James B——, senior, brought to McCall Anderson his daughter Mabel; on examination it was found that both father and daughter were affected in the same manner. On inquiry it was found that many other members of the connexion were in like manner affected. Mr. James B—— was able to trace the disease back to his great-grandmother, and he believed that her family were also similarly affected. He knew that the affection occurred in at least fourteen members of the family.

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* *Trans. Internat. Med. Congress*, 1881, vol. iii., p. 190.

† "Nodose Malformation of the Hair," *Brit. Med. Journ.*, vol. i. 1883, p. 417.

‡ "Unique Case of Hereditary Trichorexis Nodosa," *Lancet*, vol. ii. 1883, p. 140.

CASE XVIII.—Luce's case, reported by P. Michelson.*—A girl aged eight years. She was born quite bald. In the sixth month numerous small elevations on the scalp had shown themselves; the first hairs were noticed in the sixth year. When Luce saw the girl he ascertained that there were a few blackish-grey hairs of normal thickness and a length of one and a half centimetres, besides the numerous downy hairs. The scalp showed firm conical nodules of unchanged colour with a central black point. When the top of these nodules was lifted with a needle under a magnifying glass, a black mass was seen underneath, which could be recognised as a curled-up hair. The hairs in question showed in regular alternation thin and spindle-shaped thickened spaces.

Behrend in describing Luce's case writes:† "The nodes removed *in toto* showed on microscopic examination the hair *in situ*, and in one is found at the deepest part of the follicle, apparently immediately on the papilla, an ovoid hair-segment, over that a group of similar ovoid bits of hair separated from one another, and over these a hair coiled like a snake, whose ovoid segments are united by slender threads of hair-substance."

CASE XIX.—Lesser's case.‡—A child, the skin of whose head had the appearance of lichen pilaris. Some of the extremely short and brittle hairs showed alternately light and dark rings, which under the microscope corresponded to the uniformly alternate swellings and constrictions. The clear colour of the swellings depended entirely upon the entrance of air into the marrow substance, which, when compressed, disappeared. On the constrictions the cuticle was uniformly thick; the marrow substance was almost entirely wanting here, and on these places were frequently found an appearance like that of trichorexis nodosa. Careful examination showed that the hair broke off always at the constrictions, which were the pathologically changed places, as at the nodes the construction and diameter of the hair were of quite normal proportions.

CASES XX and XXI.—Payne's Cases.§—Two children, Ernest K——, two years, and Arthur K——, one year old. The elder child's head was covered with short, broken-off hairs, not more than a quarter of an inch long, so that the appearance closely resembled that of general ringworm. Some parts were nearly bald. The eyebrows were nearly gone, and some of the eyelashes had fallen out. The hairs present were very brittle and thus difficult to remove in their full length, short though they were. It was evident their fragility prevented their growing properly.

The history was that the child had had the ordinary infantile hair, up to four months old, but that when this fell off the usual second growth of hair never came, or came only in this imperfect form. The child had unmistakable signs of rickets.

The younger child was very nearly bald. There were only a few scattered hairs, which appeared broken off short, and were difficult to extract. The eyebrows and eyelashes were quite gone. The scalp was scaly with seborrhœa. The history in this case was the same as in the brother's. There had been a very abundant crop of infantile hair, but when this fell off, in the fourth month, no second crop appeared. The child was also decidedly rickety. There was nothing in the family history to throw any light upon the condition. There was no sign or suspicion of syphilis.

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* Von Ziemssen "Diseases of the Skin," p. 410.

† Behrend, "Ueber Knotenbildung am Haarschaft."

‡ "Ein Fall von Ringelhaaren," *Centralblatt f. die Medicinischen Wissenschaften*, 1886, p. 698.

§ "Hairs showing a Remarkable Nodose Condition on Beaded Hairs," *Trans. Path. Soc. Lond.*, vol. xxxvii. 1886, p. 540.

Most of the hairs showed alternations of expanded and contracted portions, so as to have a beaded appearance. The narrow parts were wanting in pigment, and showed imperfect formation of the hair. The raised or prominent portions contained pigment, and showed the regular structure of the hair-shaft tolerably well, allowing for the peculiar shape. When fracture took place, as it often did, it was invariably at one of the contracted portions, and never through a prominent or expanded part.

CASE XXII.—Case of Hallopeau and Lefèvre.*—This case of monilethrix occurred in a boy, and was said to present the usual features of this rare affection.

CASE XXIII.—Arnozan's case.*—Arnozan stated that he had seen a case similar to Case XXII. The affection was limited to a small patch at the back of the head.

CASE XXIV.—Abraham's case.†—A girl, aged two. The whole scalp was covered with short and almost colourless hairs, on the average not more than one centimetre in length. The hairs were extremely brittle, breaking off in the fingers, and it was impossible with forceps to pull them out with the roots attached. There was a considerable amount of follicular inflammation of the scalp, leading, in some places, to the formation of pustules. Examined with an ordinary lens, it was apparent that each hair was curiously beaded or "moniliform." The hairs appeared mottled, and the slight amount of pigment present was chiefly aggregated in the swollen nodes. On carefully scraping the scalp, although most of the hairs so obtained were broken off and exhibited no bulbs, a few showed the latter atrophied and twisted. Under the microscope the appearances were as follows:—The hairs were not of uniform length or thickness, the longer ones being thinner; but they all showed fusiform thickenings at approximately equal intervals, the internodes being sometimes very thin, and here showing a double contour where the cuticle was visible. In all cases the nodosities extended throughout the length of the hair, and in the longer ones as many as twelve and fifteen were counted. In many of the internodes, especially in the case of the shorter hairs, partial or commencing fractures were seen situated about half-way between the swellings. With a higher power (obj. $\frac{1}{8}$), it was evident that these fractures were not clean; there was an annular split in the cuticle, completely or incompletely encircling the hair, with a more or less fraying-out of the cortical substance; and at the ends of the broken hairs, the same fraying-out of the substance of the hair was observed. There was no sign whatever of any breaking at the swellings. The hairs exhibited comparatively little pigment, and its deposition was somewhat irregular. Most of the swollen nodes, however, showed more scattered granules and elongated dark masses than the internodes, and in some of them there was quite a large collection of pigment occupying the centre as well as the air-spaces.

The child was born with very little hair, and this became more scanty until

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* A Case of Moniliform Hairs. Abstract of Proceedings of French Society of Dermatologists and Syphilographists. Second Session, April, 1890. *Brit. Journ. Dermat.*, vol. ii., p. 160.

† *Brit. Journ. Dermat.*, vol. iv., p. 21.

Abraham saw her. The parents declared positively that there had never before been noticed any affection of the hair in any member of either family.

As far as I can ascertain, the preceding are the only cases of the disease which have been recorded up to the present. I have little doubt that all these are examples of one and the same disease. The only cases about which any question might arise are Thin's (Case IV.) and Lesser's (Case XIX.) Thin believed that his case was not similar to those of Walter Smith and Liveing; yet, in the discussion which followed Thin's paper, Liveing evidently regarded the case as of the same nature as his own, and from Thin's description of it, I fail to see in what essential points it differs from those of Walter Smith and Liveing.

Lesser's case differs from the others in the presence of air in the nodes, and their consequent light colour; but, as the nodes and internodes were arranged in regular succession, as the disease was evidently at the internodes, and as there were associated with it the same follicular lesions which were present in some of the other cases, I think it may be regarded in all essential points as the same disease.

On reviewing the cases, the following are the features of the affection which have been noted:—

The affected hairs show a regular succession of fusiform swellings, united by narrow portions.

These swellings and constrictions extend from the root all along the hair to its free extremity.

The length of a swelling and constriction in the hairs which have been measured is about one millimetre. (Walter Smith; Behrend.)

The nodes would seem to represent two days' growth. (Walter Smith; Behrend.)

The nodes appear to be the healthy portions.

The nodes, except in Lesser's case, are usually darker than the internodes. In Lesser's case the presence of air in the nodes rendered the colour light.

The internodes appear to be the diseased portions, for (1) they do not contain any marrow substance; (2) the hair readily breaks, either with clean or brush-like fracture, at the internodes.

The cuticle seems to be best marked at the internodes.

This nodose condition of the hairs only occurs in the hairs of the scalp.

While the scalp alone shows nodose hairs, in some of the cases the eyebrows and eyelashes were thin.

In the majority of the cases recorded the affection was distributed over the entire scalp (exceptions, Unna's and Arnozan's cases). While the affection was in most instances distributed over the entire scalp, there were found numerous hairs of uniform calibre along with the nodose hairs.

In many of the cases a condition of keratosis pilaris was observed in some of the follicles of the scalp.

In the majority of the cases the affection was noticed from early infancy. Exceptions: Case I., Walter Smith's first case: "The hair change commenced shortly before the catamenia set in." Case X., Unna's: "The affection came on after nervous shock."

While the affection began in the majority of the cases in early infancy, in some it can hardly be said to have been congenital. *Cf.* Thin's case: "When the child was about five or six months' old, the mother began to notice that the hair came off when the head was being washed." Payne's cases: "The children had the ordinary infantile hair up to four months old, but when this fell off the usual second growth of hair never came, or came only in the imperfect form."

The disease in one case was markedly hereditary. (McCall Anderson's.)

The disease may show family prevalence. (Payne's cases, and my own, *infra.*)

The following are the views held as to the cause of the disease:—

Walter Smith's:* "As to the cause of this singular condition, one can scarcely say more than that it represents a curious freak of perverted nutrition, there being, so to speak, a regular succession of periods of growth and of atrophy; or a periodic alternation of activity and sluggishness. The origin of nodose malformation is evidently intrafollicular; for (*a*) in many cases a node could be seen protruding from a follicle, and (*b*) the symmetry of the nodosities pointed to a regularly recurring cause, which could take place only at the seat of formation of the hair."

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* *Brit. Med. Journ.*, vol. i. 1880, p. 655.

Malcolm Morris's:[*] "The nodose appearance in the hair might be due to atrophic change at periodic intervals; the swollen parts of the hair representing the normal diameter of the shaft, and the constrictions the atrophied portions."

Thin's:[†] "Alternate swellings and constrictions are to be found in various abnormal conditions connected with the growth of the hair. I regard the case as an example of congenital deficiency in the cells of the hair papilla, which do not form epithelial cells capable of being knit in a hair-shaft of the usual strength."

Behrend's:[‡] "The nodes show frequently a greater diameter than I have ever found in any normal hair of the same individual. The nodes depend upon a real 'plus' of cortical substance, a compensation, to a certain extent, for the deficiency in the thin portions." Again, discussing Luce's case, he writes:[‡] "It appears that in this case the papilla has, during a certain time, formed a continuous hair-substance, but that afterwards its activity became completely crippled, so that it formed isolated ovoid bits of hair." Behrend, in another place, tries to account for the hair anomaly in the following way:[§]—"The nodes, as well as the internodes, approximately correspond to the length of a follicle. Let us assume that in the case before us the space between the hair and hair-follicle was not occupied by root-sheaths; the intrafollicular, not yet firm, horny part of the hair was, therefore, exposed to the inflow of the air, so that it became fissured, through which fissures the air penetrated, and thus gained access to the circumferential part of the hair. In this way the influence of the air manifested itself by drying up a portion of the matrix cells; a zone of these became incapable of its function of hair formation and a 'minus' of hair production resulted. With the upward advance of these parts, swollen by the formation of fissures, the follicular orifice must, at a certain regular time, have become closed in some degree against the forced entrance of air, and must have permitted the formation of a more compact mass of hair, which, when it had reached by progressive growth the follicular orifice, again permitted, on account of its aplastic condition, the entrance of air into the follicle, and again gave occasion to a fissuring of the hair and node-formation, so that the same process was repeated. An explanation of that kind, however, would presuppose an absence of the root-sheaths, the condition of which cannot be determined, since all previously examined hairs have been cut off, and the investigation has, in no case, extended either to the bulb or hair papilla."

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[*] Discussion on Walter Smith's Paper, *Brit. Med. Journ.*, vol. ii. 1879, p. 292.

[†] *Trans. Internat. Med. Congress*, vol. iii. 1881, p. 190.

[‡] Behrend, "Ueber Knotenbildung am Harschaaft."

[§] "Real Encyclopädie der Gesammten Heilkunde," Band 8.

Lesser's*: On account of the existence of lichen pilaris he presumed that there was disease of the follicular apparatus.

Payne's†: "It was evident that the fragility of the hairs prevented their growing properly. The peculiar shape arises from atrophy in the thin parts, not from hypertrophy in the thick parts. Looking at it genetically, the condition might be produced by alternations of growth and failure of growth in the bulb, producing alternations of normal size (possibly slight hypertrophy) and atrophy. This is confirmed by an examination of a few hairs not beaded. These are thin, without pigment, and evidently atrophic; moreover, the hair-bulbs, when, as is seldom the case, they can be seen, are evidently wasted. The whole condition is not properly a disease, but rather a failure of development which is almost congenital, and, indeed, may be due to a congenital defect in the bulbs from which the second crop of hair was to be produced."

Abraham's‡: "The view that is most current is that the disease is developmental rather than pathological; but if the bacillary hypothesis be accepted, we may suppose it possible that microbes may gain entrance into the hair shortly after birth in certain cases where the hair is naturally scanty and ill developed at that period. This, of course, has yet to be proved."

Having reviewed the cases of monilethrix, which have been recorded up to the present, I shall now give an account of a case which has been under my observation for about three years.

Michael W., aged seven, was born, according to his mother's account, with "a good head of hair, such as one often sees in babies." She stated, moreover, that his eyebrows looked as if "pencilled" when he was born. The first hair began to fall out at birth, and was all off in about a month. As the first hair fell out, a shade of the second growth appeared. She described it as "the golden shade of a second growth." The second growth only appeared at the top of the head. When he was about two months old "little red dots," or "a little red rash" appeared at the top of his head; there were little blades of hair at each spot.

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* *Centralblatt f. die Medicinischen Wissenschaften*, 1886, p. 698.

† *Trans. Path. Soc. London*, vol. xxxvii., 1886, p. 540.

‡ *Brit. Journ. Dermat.*, vol. iv., p. 21.

I have examined the boy's head repeatedly, but as there has been no material change in the condition since I first saw him one description will suffice.

The hair over the entire head is very short; at the vertex are found the longest hairs. The hairs are of two kinds, the one kind showing an uniform calibre throughout, the other kind being nodose. The longest hairs obtained measured about two inches; these are not nodose. The nodose hairs are all very short. Over the top and sides of the scalp the two kinds of hair are found, but at the back of the head, over the occipital bone, the hairs are all nodose, and are very short, some only projecting one to two lines from the follicle. The follicles containing the shortest hairs are raised above the surface, and form pale red pin's-head-sized elevations—a condition of keratosis pilaris. From some of these elevations the hairs do not project, showing that they have not reached the surface. This condition of keratosis pilaris extends down from the occipital region to the back of the neck; there are also prominent follicles here and there over the rest of the head, especially at the sides. There is a difference easily observable between the beaded or nodose hairs and those that are not nodose; the beaded hairs are darker and crisper; those not beaded are softer and lighter in colour. The nodose hairs are very brittle, the fracture occurring at an internode. I failed to extract a nodose hair with the bulb.

The eyebrows have but few hairs, and the eyelashes are scanty, but nodose hairs were not found in these situations.

The microscopic examination of the shaft of the nodose hairs revealed the same condition as that described by Walter Smith.

It is interesting to note that this boy is a younger brother of Walter Smith's second case. The scalp-hairs of the elder brother are still of the same character as before.

On careful inquiry into the family history, I ascertained that besides Walter Smith's case and my own, two other children, who died in childhood, were affected similarly. My patient's maternal grandmother was bald from childhood. His maternal uncle has imperfect hair, and has to wear a wig. There seems, therefore, in this case, to be a family tendency to the affection, similar to, but not so marked as in, McCall Anderson's cases.

Treatment has produced no material change in the boy's condition.

In May, 1891, I excised a portion of skin from the left side of the boy's scalp. Mr. J. Alfred Scott kindly made a microscopical examination of this. The following is his account of it:—

PART II.—HISTOLOGICAL EXAMINATION OF THE SKIN IN DR. WALLACE BEATTY'S CASE, BY MR. J. ALFRED SCOTT.

The excised portion of skin was hardened in alcohol and then divided into two equal parts; each half was embedded in celloidin, as this method allowed the staining agent to be changed if necessary. Serial sections were made of each, vertically with one portion, horizontally with the other. Some series of sections were stained with carmine, others with picrocarmine.

The following facts were brought to light by the examination of the sections:—

The hair-follicles extend to different depths.

In all the sections the papillæ are forming nodes.

At least two nodes and internodes exist in the follicle.

While the majority of the hairs are nodose, a few hairs of uniform calibre are seen.

The relation between the nodes and internodes varies; in some hairs there is only a slight difference in calibre between these two parts, in others the difference is marked.

On examination of the different coats of the follicles and the sections of the hairs themselves the following points are to be noted.

Fibrous coat of follicle.—Nothing noteworthy.

Prickle-layer of follicle (external root-sheath).—Nothing abnormal.

There does not appear to be any appreciable difference in its thickness opposite the nodes and internodes.

Internal root-sheath.—(*a*) Henle's layer.—This is of uniform thickness throughout; it is composed of one layer of cells, and these cells are normal. (*b*) Huxley's layer.—This layer is markedly thicker opposite the internodes than opposite the nodes. In the photograph showing cross-sections of the hairs, one hair is cut through the node another through the internode. It will be observed that where the hair is of small calibre Huxley's layer is thick, and vice versa. If one hair follicle is selected and the serial cross-sections of this follicle examined, the above condition is readily observed; as the hair swells out into a node Huxley's layer becomes narrow and where the hair forms an internode it becomes thick. The explanation of the fact that in many cross-sections some hairs are divided at the nodes, others at the internodes, even although, as stated above, all the papillæ are forming nodes, is accounted for by the different depths to which the follicles extend.

Cuticle of the root-sheath.—Present: normal.

Cuticle of the hair.—This is seen quite distinctly at the first internode above the papilla in the form of elongated obliquely-ascending cells. It is not distinctly seen opposite the nodes.

The hair itself.—All the hairs as stated above are papillary hairs. There are not any bed hairs. Pigment is present in both the nodes and internodes and is fairly uniformly distributed. Medullary cells are seen in some sections.

I examined a few sections for micro-organisms with negative results, with the exception, of course, of such as may be found normally on the actual surface of the skin.

PART III.—CONCLUSIONS BY DR. WALLACE BEATTY AND MR. J. ALFRED SCOTT.

It would appear that at one time the papillæ over the entire scalp are forming nodes, at another time internodes. This supposition is based on the fact that in all the hairs present in the sections nodes rest upon the papillæ.

The only sheath which varies with the nodes and internodes is the inner layer of the internal root-sheath. Whether this is to a certain extent a mechanical condition, the matrix of this layer being at one time impeded in its growth during the formation of the node, while during the formation of the internode the cells could multiply freely, is uncertain. Henle's layer remains of the same calibre throughout. Perhaps the non-participation of Henle's layer in the change may be accounted for (as our friend, Dr. Purser, has suggested) by the fact that this layer almost immediately after its birth becomes horny and so non-vital, while Huxley's layer remains for a longer time protoplasmic, or vital.

The accumulation of pigment in the nodes which has been noticed by different observers in the shafts of the hairs is apparent rather than real. Sections of the hairs show, as stated above, that the pigment is uniformly distributed. The apparent accumulation in the nodes when the entire hair is examined microscopically is explained by the nodes being thicker than the internodes and appearing darker.

Behrend's fanciful theory, stated above, that the nodes are formed mechanically by the entrance of air into the follicle and the fissuring of the hair is disproved by two facts;

1. The assumption with which he starts, that a hair follicle contains only one node and internode is proved by our sections to be erroneous.
2. The hair possesses a cuticle and root-sheaths.

That micro-organisms could play any part in this hair anomaly is most unlikely for two reasons:—

1. No micro-organisms were found in our case.
2. Such a regular succession of nodes and internodes is scarcely compatible with any such external agency.

It would appear that at a time when a change in the type of hair occurs, this strange anomaly shows itself—shortly after birth in the majority of the cases; at puberty in Walter Smith's case. In Unna's case shock seemed to determine a change in type.

It seems to us, therefore, that this strange affection is due to some constitutional or nervous affection of central origin.

EXPLANATION OF PLATE.

Upper Photograph represents transverse sections of three hairs.

Letter N is placed opposite a hair cut through at a node; the internal root-sheath is of about normal thickness.

Letter I is placed opposite the hair cut through at an internode, the internal root-sheath is much thicker than normal.

Letter D is placed opposite a normal "down" hair.

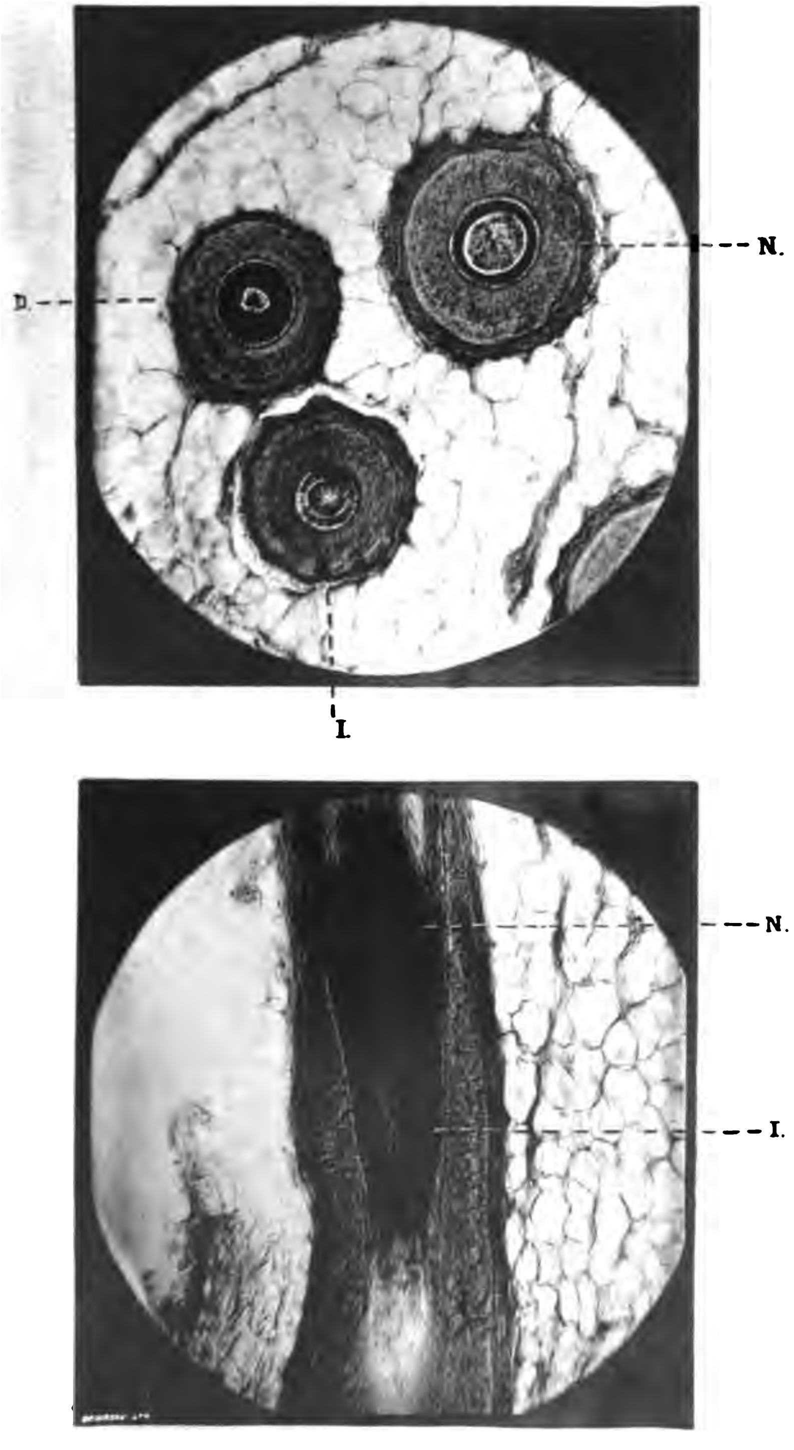
Lower Photograph represents a longitudinal section of a nodose hair.

Letter N is placed opposite the node; the internal root-sheath is thin.

Letter I is placed opposite an internode; the internal root-sheath is very thick.

Both Photographs have been taken with Hertz No. 8 objective, and Zeiss projection ocular No. 3, giving an amplitude of 170 diameters.

NOTE.—Through an error in the printing of the *upper* photograph, letters I and D have been misplaced. In order to make the lettering similar in both photographs, the reader is requested to reverse them accordingly.



SECTIONS OF MONILIFORM HAIRS (BEATTY AND SCOTT.)

ERYTHEMA KERATODES OF THE PALMS AND SOLES.

BY WILLIAM DUBREUILH, M.D., BORDEAUX.

Dr. Brooke lately published in the British Journal of Dermatology for November, 1891, two cases of Symmetrical Keratodermia of the extremities, which he calls Erythema Keratodes. I have had the opportunity of observing an almost identical case, which may be of some interest to the readers of this journal. The history of keratoses of the palms and soles is still rather confused. Some forms are merely special localizations of diseases of the skin, which have generally a wider distribution; others are special diseases which do not occur elsewhere. Among the latter several ought to be clearly differentiated. Such a result can only be obtained by comparing and putting together typical and well-observed cases, so as to make up clearly defined and easily recognizable morbid types.

Mrs. R., æt. 63, consulted me on July 20th, 1890, for an excessive thickening of the skin of the palms and soles. Although exceedingly stout, her fore-arms and hands, legs, and feet are only moderately developed and remarkably well-shaped. Her general health is good, though she suffers from shortness of breath owing to marked emphysema of the lungs, and from some dyspeptic trouble. She has three healthy-looking daughters. She has never had any skin complaint of any sort, nor any symptoms of syphilis. Her present trouble began two or three months ago on the right foot, and soon afterwards spread to both hands and to the left foot, the affection gradually increasing in intensity up to the present date.

Status præsens.—*Right Hand.*—In the middle of the palm is an irregularly-rounded area an inch and a half in diameter, covered with a much-thickened epithelium, shedding off thick scales, and cut by deep and painful fissures. On the thenar eminence is another similar lesion the size of a shilling; smaller ones are to be found on the palmar and lateral aspects of the fingers. On the back of the fingers, particularly on the last phalanx and around the nails, are pea-sized erythematous nodules, capped by thickened epidermis. The nails are perfectly normal.

Each of those patches is covered with a thick and horny covering, the surface of which is scaly and broken through by deep cracks at each fold of the skin. The patch is surrounded by an erythematous edge, deep red, somewhat raised, well defined, and due to a swelling of the derma. The patient only complains of an occasional feeling of burning heat and itching, which is soothed by bathing in bran and water. The act of closing the hand, or pressure on the palms, is rather painful.

Left Hand.—The changes are less advanced, and their process of development can be better followed. Their appearance and distribution are exactly the same as in the right hand.

The alterations begin by a small red nodule, the size of a millet-seed, deeply seated, with an ill-defined outline, raised above the surface, rather hard to the touch, and sometimes a little painful. Its epidermal covering is unaltered.

A little later this nodule gets larger, flattened at its centre; the epidermis is thickened and a little whitish along the natural furrows of the skin.

Later still it is a round patch, one-third of an inch broad; the edges are raised and the centre is depressed. The thickened epidermis in the centre is amber-coloured; the papillary lines are well marked, but the slight desquamation gives it a whitish and powdery appearance. The edge is red, raised above the level of the neighbouring skin, covered with epidermis still normal, and feels like a deep-seated thickening of the derma.

When completely developed, the small lesions generally coalesce, particularly in the middle of the palm and on the thenar eminence,—where they form large patches. more than one inch in diameter,—their irregular and circinate outline is surrounded by an erythematous and raised border one quarter of an inch broad; their centre is depressed, and covered with a layer of thick and horny epidermis, which scales off, and is deeply cut by fissures reaching down to the derma in the articular folds.

Between the patches the skin is perfectly sound and soft, with its natural moisture, and unimpaired sensibility to touch and to pain. The nails are perfectly normal.

Right Foot.—The changes cover the whole of the sole, except the plantar surface of the heel. They involve all the anterior half of the foot, with the lower and lateral aspects of the toes, the middle and inner part of the sole up to within an inch of the ankle, and a band of hyperkeratosis follows the limit of the thick plantar skin all round the heel, thinning off and finishing on its outer side.

The outline of the lesion is marked by a red edge one quarter of an inch wide, broadly circinate, with marked thickening of the derma, and slight thickening of the epidermis. It is exactly like what is to be seen on the hands round the lesions of the second degree. Inside that border the epidermis is enormously hypertrophied, and attains more than half a centimetre in thickness. This horny coating covers the ends of the toes entirely, and the anterior half of the sole. Over the middle of the sole it is no longer continuous, but is divided by deep fissures into rounded and hemispherical patches. On the inner part of the sole the horny coating has somewhat fallen off, leaving exposed a thin scaly epidermis with deep fissures, resting on a thick, red, and inflamed derma. The nails have not undergone any alteration, although they are entirely surrounded by the hyperkeratosis, which raises their anterior extremity.

The horny masses adhere firmly, and cannot be wrenched off without causing great pain. The skin is so sensitive to pressure that walking, and even standing, are quite impossible.

Left Foot.—The alterations are not so marked, but their situation and appearance are exactly the same as on the right side. The inner part of the sole, *i.e.*, the middle of the plantar arch, is healthy, and the second and third toes are hardly altered at all. The horny coating is not so thick and the cracks are not so deep.

Although I could not find in my patient any history of syphilis, the appearance of the lesions suggested that disease most strongly. The hyperkeratosis was obviously secondary, the primary lesion being a deep inflammation of the skin, which began as a nodule and spread as a raised, thick and erythematous ring, the middle of the patches being somewhat less swollen than the margin. Such is exactly the principal feature of tertiary syphilitic lesions of the skin, with this difference, that instead of breaking down and ulcerating in the centre as they usually do, they, in this case, had given rise to an enormous thickening of the epidermis. My friend, Dr. Arnozan, who saw the patient with me, agreed to that diagnosis.

We accordingly gave Madame R. biniodide of mercury and iodide of potassium (Sirop de Gibert ioduré), and we had the hands and feet smeared with diachylon ointment, to which was added 20 per cent. of salicylic acid to hasten the scaling off of the thickened epidermis, then wrapped them up in linen bands.

After the first week, the erythematous edge was considerably paler and softer, and the disease had ceased spreading.

On *August 21st* the red and swollen border had completely vanished. The thickened epidermis had fallen off to a large extent, exposing a soft skin, covered by an almost normal epidermis, still just a little red, but only on the parts previously occupied by the hyperkeratosis, as the red edge had entirely disappeared. On the hands there were no more fissures, the large horny patches of the palm were replaced by a thin, soft, but still somewhat scaly, epidermis. The small nodules had entirely disappeared, leaving no trace except a little lenticular mass of thick and horny epidermis still firmly imbedded into the skin.

The disease was not only checked in its development, but was really cured, except that some parts of the horny coating were not yet shed.

The treatment was still continued on the same plan (salicylic plaster and iodide of potassium), but without any mercury.

On *September 15th*, Mrs. R. was completely cured, the skin having entirely resumed its natural appearance, with the exception of some bits of horny epidermis on the feet and a few scaly spots on the hands.

The iodide of potassium was still continued with occasional interruptions.

Before publishing this case I called on Madame R., on February 12th, 1892. No relapse has occurred. The skin of the hands is remarkably smooth and soft for a woman who does a great deal of rough household work. The skin of the feet is perfectly sound, barring a certain number of corns. She complains of occasional fits of prickling and burning pain in the hands and feet, which become rather red.

I have not been able to search out in medical literature all similar cases which may have been published: that I propose to do at some future time. For the present I shall only consider Dr. Brooke's cases and mine. They are almost identical. The disease begins by a red, deeply-seated nodule, which spreads to form a patch the size of a sixpenny piece, or may become larger by the coalescence of several small patches. As the elementary lesion spreads out, it gets covered by a thick coating of horny epidermis; but, during its whole progress, the primary dermal change is to be found as an erythematous and raised edge, slightly tender to the touch, surrounding the keratodermic surface. The disease is strictly limited to the hands and feet, but not to the plantar and palmar aspects; as similar lesions—though smaller—are to be found on the dorsal side of the fingers, particularly on the phalangeal joints or over the distal phalanges. The nails remain unaffected. The evolution is subacute. In Dr. Brooke's first case, the disease progressed six months, then remained stationary during a year and a half. In his second case and in mine it had lasted ten weeks, and was still progressive, when checked by treatment. The patients were females, aged 27, 47 and 68, and all three dyspeptic. They were all easily and quickly cured, with only a slight relapse in Dr. Brooke's first case.

The case published by M. E. Besnier in the "International Atlas of Rare Skin Diseases," is really quite different. The changes had indeed very much the same appearance, but a most important feature is their entirely different evolution. The patient was a man; the disease began at eight years of age, and had lasted thirteen years, becoming worse every winter, and getting better in summer, but never disappearing entirely, although numerous forms of treatment had been applied. Very much the same may be said of the case presented at the French Dermatological Society, on March 12th, 1891, by Hallopeau and Claisse.

If we compare Erythema Keratodes with the other scaly diseases of the palms and soles, it will be seen that it is an entirely distinct malady.

In the common psoriasiform syphilide of the palms there is some swelling and redness of the derma, beginning by patches, and spreading out afterwards; but the epidermis is scaly rather than thickened, and, at any rate, is never so thick as the horny patches of erythema keratodes.

The same can be said of trichophytiasis palmæ, where a red and inflamed edge can be seen all round the patch; but the thickening of the epidermis, when present, is always very slight, the epidermis scales off without ever forming a horny coating, and generally some vesicles are to be found on the edge.*

In tylosis palmæ et plantæ, such as is described by Dr. Crocker in the British Journal of Dermatology for 1891, p. 171, the thickening was general from the first, and spread over the whole surface of the palms.

In all forms of plantar keratosis a red border can be seen round the thickened sole of the foot. It is caused by the extreme stiffness of the horny coating, which, in the act of walking, bruises the sound skin just on the limits of the hard parts. But that red border exists only on certain parts of the foot, it is broader, less swollen, and of a lighter red than in erythema keratodes. Such seems to be the cause of the red edge in Case No. 2 of Dr. Brooke's first paper in the Journal for January, 1891.

The question of keratoses of arsenical origin is still rather obscure. We do not know much of them in France, and the cases reported are so different that no general description can yet be made. In Dr. Pringle's case (British Journal of Dermatology, December, 1891), the skin was studded with very numerous and very minute prominences which had a warty appearance and no trace of erythema.

Eczema, lichen planus, and psoriasis, when limited to the palms of the hands and the soles of the feet, are very difficult to recognize; but, generally, some other lesions are to be found in other places, where they can be known by their usual characters. On the palms and soles they are very often symmetrical; and, if they cannot always be diagnosed exactly, they can be easily distinguished from erythema keratodes. In eczema the horny coating is not so thick, and the epidermis is more markedly scaly; besides, there is no inflammatory thickening of the skin beneath and around. In lichen there is no red ridge round the patches. Psoriasis is the one of these three diseases which may most closely resemble erythema keratodes, as there may be some redness and swelling on the derma, together with consider-

* *Cf. Arnozan and Dubreuilh. Trichophytie des mains et des ongles. Archives cliniques de Bordeaux*, 1892, No. 1 and 2. *Djelaleddin-Moukhtar. Trichophytie des régions à épiderme corné. Annales de Dermatologie*, 1892, No. 2, p. 152.

able thickening of the epidermis. However, the red border is generally much less marked, and is not painful; the nails, when surrounded with the lesions, are somewhat altered—they are pitted and furrowed; in its further evolution psoriasis does not heal so easily as erythema keratodes seems to do, and usually recurs in a few months.

My case I considered at first as syphilitic, and thought my opinion confirmed by the rapid and complete cure; but the value of that proof is considerably diminished by the fact that Dr. Brooke's cases were cured almost as quickly and as completely by an entirely different method of treatment, and, particularly, without mercury or iodide of potassium.

Dr. Brooke thinks the disease is trophoneurotic, and of central origin; but I must own I can hardly agree to that opinion—all the more that it explains nothing, but seems to me a mere *obscuria obscurioribus dilucidare.* The symmetry of the lesions is no proof of the theory; as most diseases affecting the palms or soles are often symmetrical, whether it be syphilis, eczema, or corns. Besides, the rapid and complete cure by means mainly local, ill agrees with the hypothesis of a central neurotic origin. In fine, we know nothing of the *fons et origo mali;* but these three cases are clear instances of a well-defined disease of the hands and feet, and may serve as landmarks for a future classification of that most obscure class of disease, the *keratodermiæ symmetricæ.*

REVIEW.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN.*

THE author states, in his preface, that this work does not profess to be an elaborate treatise on Dermatology, and that it is intended not for the use of the specialist, but for the assistance of the student and general practitioner.

Such being the case, discussions on nomenclature and theoretical speculations on pathology and etiology may be considered to have been advantageously much curtailed. If the nature, course and treatment of a disease be thoroughly known to, and recognized by, the physician, it does not matter very much, either to him or his patient, which of the numerous names applied by the various authorities on the subject he employs to designate the malady; at the same time, such questions as the similarity, or identity, between eczema, seborrhœa and seborrhœa-eczema might have received a passing notice.

The plan adopted, at the commencement, of grouping together the descriptions of the anatomy and physiology, along with the diseases and their treatment, of the various component parts of the integument in a distinct section for each, seems a good one, but it has not been systematically carried out—a particularly striking omission being the absence of a separate chapter on the hair. The histology and physiology of the latter are apparently considered unworthy of notice, as no description of them has been found after a careful perusal of the work. Also, it is difficult to understand why psoriasis, lichen, &c., should be considered under "inflammations of the skin," while "eczema" receives an entirely separate heading. The only deduction from this is thatthe author does not consider eczema to be an inflammation of the skin; and it is also evident that he does not think it has any connection with the sebaceous glands, as no mention is made of it in the chapter devoted to the latter.

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* *A Practical Manual of Diseases of the Skin.* By George H. Rohé, M.D. &c., &c.

The book is, avowedly, intended for the use of those who are supposed to know little, if anything, of skin diseases, and these will often have great difficulty in getting a clear and satisfactory comprehension of the subjects considered. To take an example, under "Sycosis" we are, at the commencement of the chapter, informed of the characteristics of *non-parasitic sycosis*, but we receive no hint as to the nature of *parasitic sycosis*, or even that such a disease exists, till about three pages farther on, when the following paragraph occurs:—"From parasitic sycosis the differentiation will be aided by a history of the case. The latter disease *usually** commences as a ringworm—tinea circinata—and the fungus, which is the cause of the disease, can usually be found, without much difficulty, in the scales, and affected hairs, by the aid of a good microscope," &c. But we are not told how to find this fungus, nor, having done so, how to recognize it. So far we have not received a word of information regarding the nature and appearances of tinea circinata. Suppose ourselves students, or even young practitioners, anxious for knowledge of this important subject; we eagerly turn up the index for "Parasitic skin diseases," and are there directed to page 199; here we learn that the organisms producing favus, ringworm, and versicolor "belong to the class fungi, and are easily recognizable under a comparatively low power of the microscope (three to five hundred diameters)." What they look like in this situation is left for the imagination or some authority to describe. In another instance it is stated that "another disease which bears great similarity to eczema is the itch;" no definition of the latter, however, is given; and under "scabies" no mention is made that the two terms are synonymous. There is, moreover, no description of the appearance of the sarcoptes.

A few more details might often have been advantageously given. Under "Urticaria," surely the pigmented form of the disease might have been mentioned, and though the Lichen question is certainly a vexed one at present, a larger space than a page and a half might have been given to the consideration of this important group, of which the author only mentions two varieties, Lichen planus and Lichen ruber acuminatus.

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* The *italics* are our own.

In a work dealing with one branch of medicine only, one expects more details of treatment than are here given; very little is said about baths, and no mention is made of them in the index, which is in other respects incomplete. In cases of prurigo the use of cod-liver oil, either internally or externally, is not even suggested. In the chapter on scabies we are told that, if, after bathing and application of strong sulphur ointment twice daily for three days, the itching returns, we are to repeat the treatment in a few days. The possibility of the sulphur setting up a dermatitis apparently does not present itself to the mind of Dr. Rohé as no word of caution is given on this point.

A statement that it is unnecessary to cut the hair off in cases of acute eczema of the scalp, is followed in the next paragraph by another to the effect that the first indication for the treatment of eczema of the hairy parts of the face, after removal of the scabs, is daily shaving, and no attempt is made to reconcile the apparent incongruity of the two. Glycerine jellies are not suitable in all cases in which their use has been advocated, but it is absurd to ignore them altogether, and the same may be said of Ichthyol and the various plasters which have been so strongly recommended by Unna and his followers.

Lists of formulæ are doubtless useful, but Nos. 24, 30 and 41 all simply contain acetate of potash, fluid extract of taraxacum, and water; rather an *embarras de richesse* considering how much necessary information on other important points has been withheld. Also many of the numbers on the list do not correspond with those by which they are referred to in the text—a piece of carelessness which a small amount of trouble in supervising the work would have obviated.

On the whole the book cannot be considered as an acquisition to the series of which it forms a number.

A. Home-Douglas.

CURRENT LITERATURE.

AUTO-TUBERCULINIZATION IN LUPUS. (*Berliner Klin. Wochenschrift* 1891, 25.)

In a former article (BRITISH JOURNAL OF DERMATOLOGY, 1891, p. 192) Dr. Unna emphasized the distinction in the lupus lesion of two very different factors, the older tuberculized elements which are of retrogressive character, and the younger tubercular elements which are of long persistence and possess a purely progressive character. The former tend hopelessly to degeneration, the latter to the formation of a specific new growth composed of the lupus plasmoma (a name derived from the identity of its cells with Waldeyer's epithelioid plasma cells) and the lupus fibroma, a peculiar fibrous tissue formation which is formed under the special influence of the tuberculous poison. The older foci, the so-called tubercles, are quite refractory to the influence of tuberculin, and hence the impossibility of completely removing even a commencing lupus by injections of Koch's fluid alone; but the new growths are, on the contrary, powerfully affected by it, and as they are responsible for the ugly disfigurements caused by the progress of the disease, the value of an agent which promotes their absorption can hardly be over-estimated.

In order to induce this effect, however, injections of the actual fluid are not necessary. Every patient carries about in himself a reservoir of tuberculin, and it is only necessary to manage to get this substance free and let it circulate in the blood in order to bring about the same results. Unna's researches on the action of tuberculin solutions on still living lupus tissue tended to show that their action was similar to that of the poison emanating from the lupus bacilli themselves, but more intense and tending to promote the retrogressive, and check the progressive factors. This, of course, corresponds exactly with our knowledge of the course in acute miliary tuberculosis where the bacilli are plentiful, and that of ordinary lupus where the bacilli are sparse. Presumably, therefore, the tuberculin exists either in the living or in the dying micro-organism. The question is, therefore, how to get the tuberculin out of these organisms into the surrounding tissues. They are not easily influenced, and we know that their position in lupus far away from the blood-vessels, and the dry cell wall by which they are surrounded, both help to protect them even from the acute inflammatory attacks set up by tuberculin injections

Unna has attempted to attain this end in a purely mechanical way by *massage*. The soft lupus tissue, being free from collagen, permits of this being done very rapidly; the only danger is in the production of an excoriation which would interfere seriously with the object in view, that of internal absorption. In order to prevent this a small piece of "plaster mull," preferably that containing zinc oxide, is applied over the lesion, and a patch of the size of a shilling is massaged with the thumb and fingers for one, two, or at most three minutes each day. The plaster is allowed to remain on so as to keep the upper skin intact. If salicyl-creosote plaster is used instead of the simple zinc, an ulcerated spot is formed, on which the next massage has to be performed, but a well adhering plaster replaces the upper skin, no great exudation occurs, and a more energetic resorption is produced.

The effect of this procedure is twofold;—1. A direct absorption produced by the massage. 2. A tuberculinization, which shows itself by the production of all the phenomena which follow the injection of Koch's fluid, redness, œdema, &c., with this difference, that they follow the massage immediately and not after an interval of some hours. The more remote influences depend on the degree of intensity of the process. If the massage has been slight and limited, the most marked effect on other patches is a simple sinking in, without any signs of inflammation; if it is more vigorous and over a wider surface the neighbouring lupus patches show a distinct redness at their edge. The irritation cannot be of a simple nature, such as that produced by heat or by painting with iodine, but is specific in character and identical with that produced by the injection of tuberculin.

In fourteen cases treated in this way Unna found no untoward symptoms. Only in one case did headache supervene a few hours after the massage.

The quantity of tuberculin set free is obviously too small to produce general symptoms, and even large lupus patches can be treated at once in this way without fear of danger. When the lupus plasmoma and fibroma have been absorbed the massage has done all that it is capable of doing, and the remaining "lupus tubercles" must be sought out and destroyed by means of caustics or the galvano-cautery.

This process of local tuberculinization offers, in Unna's opinion, the real explanation of the good effects derived from Squire and Vidal's scarification treatment, the theory of the interference with the blood supply which the constant discision was supposed to bring about being obviously at variance with our knowledge of the vitality and habitat of the tubercle bacillus as it exists in lupus lesions. H. G. B.

CUTANEOUS TUBERCULOSIS. Papers read at the meeting of the American Dermatological Association, September, 1891. Reprint.

This interesting collection of papers by Drs. J. C. White, J. T. Bowen, and G. H. Fox reproduces the opening addresses of a general discussion upon cutaneous tuberculosis. Being designed to give a complete account of our knowledge of the subject in as simple a form as possible, they necessarily contain much that is already common property; but the authors are all to be complimented on the complete and lucid manner in which they have performed their task.

In the article on the *Clinical Aspects and Etiological Relationships of Cutaneous Tuberculosis*, Dr. J. C. White, of Boston, reviews the various forms in which tubercle attacks the skin, and emphasizes the frequency with which they occur in the same individual. He divides them briefly into (1) lupus vulgaris; (2) tuberculosis verrucosa; (3) tuberculosis cutis, including the acute tuberculous ulcer, the dermatitis tuberculosa acuta of Heller, and the tuberculose pustulo-ulcéreuse of Gaucher; (4) scrofuloderma, the tuberculous infiltrations which take place in and around the lymphatic glands, especially those of the neck; tuberculous dactylitis, which closely resembles syphilitic dactylitis, with which, although much more common, it is generally confused; and the rare affection described by Hallopeau and Goupil under the title of Lymphangiectasie suppurative tuberculeuse, which consists of swellings of the size of filberts or even small eggs occurring in the course of lymphatic vessels, and giving rise, when ulcerated, to fistulæ from which flows lymph containing tubercle bacilli.

"Lichen Scrofulosum" and Unna's "Eczema tuberculosum" are "in no way tuberculous processes, but disorders of the skin occurring in patients who are affected by tuberculosis." Dr. White has "seen no reason advanced for recognizing a specific tuberculous eczema; he has, however, apparently overlooked the statement that this form of eczema has been healed by injections of tuberculin, and has so far appeared to justify Unna's name, which was given fully ten years ago, on account of the frequency with which it was met with in scrofulous children. It is acute in character, and affects the neighbourhood of the openings on the face, *i.e.* the ears, eyes, nostrils and mouth, where the inner and outer membranes meet.

The unity of the various forms of cutaneous tuberculosis is now practically beyond all doubt, the frequency with which they occur in conjunction, or in sequence (*e.g.* lupus from scrofulous glands or from "white swellings") owing to auto-inoculation or inoculation from patient to patient (occurrence in two or more members of one family, post-mortem wounds, washing of linen of tuberculous people, tattooing and ritual circumcision performed by phthisical people) being well established by repeated observations. White quotes twelve cases which have occurred in his own practice in the last three years, in which the patients had suffered from various tuberculoses after being exposed freely to contact with bacilli, either in nursing tubercular patients, or by close contact with mothers or brothers and sisters who were tubercular. In Dubreuilh's experience the inoculation from surgical tubercle, which is poor in bacilli, generally produces tuberculosis of slow progress, *i.e.* lupus forms, whilst that from tuberculous sputum gives rise to painful ulcerations or panaritia, or to carious lesions full of bacilli.

Dr. White ridicules the idea of a diathesis as a pure assumption, having no tangible or scientific basis, and as being as absolutely unnecessary to the causation or propagation of tuberculosis as it is to that of leprosy or syphilis. With our present knowledge of the extreme ease and frequency with which the tubercular poison may be transmitted, especially amongst those who live in close contact, the necessity for any such element of causation, even as a subsidiary, has ceased to exist; but we can hardly agree with him in his repudiation of the idea of an inherited predisposition to tubercular infection as an "inconceivable nicety in the problem of heredity." We see nothing incomprehensible in such a supposition, and Dr. White himself bases his opposition to it on the supposition that all animals (therefore all men) are equally open to tubercular infection, a supposition which has not the support either of analogy or of clinical or experimental experience. All clinical experience goes to prove that certain individuals are more open to the attacks of special infective poisons than others, and this being so, there can be no *à priori* objection to such a condition being inherited. It is also a notorious fact that some animals (*e.g.* guinea-pigs) are extremely susceptible to tuberculosis.

He makes, in conclusion, the very sensible proposition that, seeing the dependence of all the forms of cutaneous tuberculosis on one common cause, and their not unfrequent connection either as direct cause or effect with the tubercular affections of the internal organs, that all such terms as lupus and scrofuloderma should be in future avoided, and that the different tubercular manifestations should be designated by no more distinctive titles than those which we now employ for the manifold lesions of syphilis and leprosy.

The Pathology of Cutaneous Tuberculosis is treated by Dr. J. T. Bowen, and embraces a description of the most recent work on the various tubercular lesions of the skin. The chief points concerning the histology of the tubercular element, the formation of Langhans giant cells, and the relative importance of the *rôle* played by leucocytes and epithelioid plasma cells have been recently stated in this journal in an analysis of Dr. Unna's article.

The analogy between the tissue changes which take place in the acute miliary ulcer and in many cases of scrofuloderma and those which occur in internal organs, is pointed out as being due to the relatively large number of bacilli which they contain, and the consequent acceleration of the morbid destructive processes, the formation of necrotic "cheesy" masses, or of even more rapid erosions; whereas the changes which occur in lupus, where the bacilli are sparse, are very similar to those produced artificially by the injection of attenuated virus, namely, the production of the primary epithelioid cell tubercle or to one verging upon the lymphoid cell tubercle. The elephantiasic condition, which not unfrequently complicates lupus during the advanced regenerative stage, is due, in part, to the formation of large quantities of new connective tissue, which is so great as to preponderate over the degenerative process and produce an hypertrophy, often of large dimensions. According to Unna, the scar tissue which follows the spontaneous healing of lupus infiltrations (and which occurs largely in connection with these hypertrophic growths), is quite specific in its character, the bundles of connective tissue being arranged in a parallel and horizontal direction, and intermixed with large cell spindles rich in protoplasm, which give the skin a striped appearance on section. The absence of elastic tissue differentiates it further from the ordinary scar.

The papillomatous growths and the proliferation of the glandular elements which not unfrequently complicate lupus are really more secondary phenomena than specific changes. So too, as Neisser pointed out, are the suppurative processes which so often complicate tubercular lesions, especially lupus, the formation of pus not being an attribute of the tubercle bacillus, but set up by the penetration of some of the pus cocci from without.

Dr. Bowen rightly raises the question of the desirability of separating the verruca necrogenica, or tuberculosis verrucosa cutis, from cases of lupus verrucosus, since it has been clearly pointed out since Riehl and Paltauf published their original article, that these manifestations are not confined alone to those having to deal with carcases, but are also found in children. Everyone who sees much lupus must have observed that this condition occurs, especially in the regions extending from the knees and elbows to the digits, in even young children who are affected with multiple patches of lupus. Clinically the lupus verrucosus is distinguished by much less frequent complication with secondarily inflammatory and suppurative foci than is the case in the anatomist's wart, and anatomically by the fact that its site is in the middle and lower layer of the corium, and not in the upper and even papillary layer as is usual with the former affection. We can hardly agree with Dr. Bowen in his view that it is still advisable to keep up the distinction of name, for, as he admits, there are undoubtedly many transitional stages between the two forms, and the different manner of entrance of the virus can hardly be a ground for separation, seeing that not a small number of lupus patients can give a clear history of the origin of their trouble in some slight accidental wound. Nor could the union of the two forms in the least diminish the service rendered by Riehl and

Paltauf in classifying a hitherto misunderstood affection. The members of the Vienna School certainly now include in their clinical histories cases of "lupus verrucosus" under the much preferable name of tuberculosis verrucosa cutis.

In the concluding chapter, which treats of the *Therapeutics of Cutaneous Tuberculosis*, Dr. G. H. Fox is brief and acutely critical. Unlike his colleagues, he confines his attention to one branch of his subject, viz., lupus, and does not even touch upon the local treatment of scrofulodermic ulcers, of the elephantiasic conditions, or of tuberous tubercular nodules and other tubercular manifestations of the skin which certainly come under the title of his article.

Excision of lupus areas he condemns, in spite of the good results which have been recorded by Hahn, Segner, and others, when complete excision was combined with subsequent graftings by Thiersch's method. The cautery, whether that of Paquelin or the galvanocautery, gives uncertain or disfiguring results, and should be avoided. Besnier's method of employing heat is better, but Dr. Fox has never fairly tested it. Jackson's flat electrode, although capable of doing good, is too slow in its action to be of practical use.

The curette and the dentist's burr are the two instruments on which he places the greatest reliance, and the scarifier in cases of ulcerating lupus of the nose, in which it is superior to all other plans of treatment. We think that Dr. Fox might have well extended his recommendation to the face generally, for considering the excellent scars which scarification produces, the number of the sittings which are necessary and the consequent pain are quite outweighed by the cosmetic improvement which it effects.

Of the various local applications, nitrate of silver, caustic potash, chloride of zinc, lactic acid, ethylate of sodium, iodoform and aristol are rejected, and on good grounds, as possessing no special value in the treatment of lupus. Sublimate solution (Doutrelepont and others) has also proved unsatisfactory. In addition to this we have found it by no means painless. Pyrogallol, on the other hand, although painful, is of the greatest service. Dr. Fox modifies Jarisch's mode of application. After using the curette freely he uses, not a ten per cent. but an ointment containing 25 per cent.—50 per cent. of pyrogallol. This causes pain and inflammation, but if the use of the acid be persisted in until the slough separates from the wound, the pain is soon benumbed by the action of the acid, and only recurs when simple dressings are substituted. Mercurial plaster is then applied for some weeks, and the whole process begun again, if necessary. Beneath the plaster the ulcer becomes converted into a smooth pliable cicatrix, or if the wound be large, skin flaps may be transplanted on to it. This has been Dr. Fox's usual procedure for many years, and one which has given him very satisfactory results. Salicylic acid, originally proposed by Marshall (1884), and strongly advocated by Unna, with the addition of creasote as an anodyne, works also well, but he has not been able to compare it directly with pyrogallol. Superficial scarification twice weekly, followed by the application of a 1 per cent. alcoholic solution of fuchsine, proved most effectual in a case in which various modes of treatment, both surgical and otherwise, had been tried in vain.

Unlike Dr. White, Dr. Fox believes in "scrofula" as an inherited or acquired condition which leads to the development of definite and characteristic symptoms. When this condition is present it should be treated with the usual codliver oil, iodine, and hypophosphites. The iodide of starch (24 gr. iodine to starch 1 oz.) which McCall Anderson rejected in lupus vulgaris as useless, Dr. Fox finds to be of distinct service in the strumous state, whether accompanied by tuberculosis or not, or by syphilis or acne, and in such cases it forms a valuable adjunct to the purely local measures.

In his opinion, the subject of Koch's tuberculin injections is still *sub judice*. In his own practice he has seen some cases do well and remain afterwards apparently free from disease, whilst in others it has left the disease in the end uninfluenced. On the whole he is personally favourable to its use as an auxiliary, a position which it will quite probably assume in the future when the medical disappointment and the lay scare have had time to abate or disappear. H. G. B.

CULTIVATION OF PSOROSPERMIA (a preliminary communication). SHERIDAN DELÉPINE, M.B. Edin. (*Trans. Path. Soc.*, 1891, pp. 371-7, Fig. 21, Plate VIII.)

Dr. Delépine, commenting on those cases (especially of epithelioma and Paget's disease) in which during the last fifty years psorospermoid bodies have been found in human tissues, appends a list of observers whose united testimony he weighs against the rarity of such cases, and agrees that they furnish sufficient evidence of the occasional occurrence of true psorospermia in man. While admitting that the round or oval bodies found in epitheliomata may be of a similar nature, he mentions various points in support of his original view that they are degenerative products; *e.g.* they do not give the chemical reactions exhibited by some forms found in the livers of rabbits, nor do they show developmental forms. Hence he hesitates to draw any definite inference from his own observation of such bodies in various epitheliomata, especially as he has met with similar forms in cases where psorospermia were certainly absent and degenerative changes obviously present. In search for an easy method of cultivating psorospermia for diagnostic and inoculative purposes, he first employed water as a medium, in order to test Kauffmann's observations, viz. that psorosperms placed in water formed four spores by intracapsular division of their protoplasm. Dr. Delépine found that on placing psorospermia from rabbits' livers in water, as a rule the capsule swelled up and became indistinct, while the protoplasmic contents formed an amœboid granular mass, which became more coarsely granular or vacuolated, and finally broke down into clumps of granular débris. In the rare cases where oviform bodies were formed, these showed no further progressive change, and were due, he thinks, to nutrition of individual psorospermia by the decaying substance of the rest. Hence he discarded water as a nutritive medium, adopting instead interlamellar films of bile, of exuded serum, of glycerine, and of gelatine kept at a temperature of 20° C., and using psorosperms from a single cyst in a rabbit's liver. In less than a week most of the psorosperms placed in serum showed partial or complete subdivision of their protoplasm into four or more round or oval bodies, such as Kauffmann describes, as to a less extent did many of those in gelatine. In bile the protoplasm neither divided nor degenerated, but shrank to an oval or round body, variously placed, and full of largish, highly refracting granules (*cf.* Hake). Besides the encapsuled form the cyst furnished many smaller parasites, consisting of naked masses of yellowish gelatinous protoplasm of various size, some being amœboid. These were found elsewhere in the liver and also in the stomach and intestine, where they were mostly small. In the bile and serum cultivations Dr. Delépine considered that some of these became encapsuled, but he could not actually observe the change.

In serum, gelatine and glycerine the protoplasm in the encapsuled forms showed the following changes:—(1) Contraction, sometimes with alterations of form. (2) Arrangement of the granules or network equatorially, leaving the poles clear (distinct in a few cases only). (3) Division into two oval or irregular amœboid bodies. (4) Subdivision, not always simultaneous, of both of these, with enlargement of the capsule, probably from accumulation of fluid within. The protoplasm of the daughter-cells often showed a homogeneous part, contrasting with a finely granular part which frequently contained round, strongly refracting bodies. (5) Where there were four spores, these were generally regularly oval, like tiny psorosperms, probably having a thin capsule. "They were almost entirely composed of a clear, translucent, elongated body, folded upon itself, and often containing the round refractive bodies alluded to above. In some cases they really seemed to contain a folded or hooked body, resembling to a certain extent the *falciform corpuscles* of Eimer, Schneider, and other observers; *but this was only a transitory appearance.*" (6) Occasionally further subdivision into five, six, or more small round bodies, each usually containing a bright globule and resembling a small leucocyte. (7) Elongation of daughter-cells and amœboid changes of shape (round, vermiform, pyriform), and of position in the capsule: occasionally an intertwining and seeming coalition. Each amœboid body had now, as a rule, two bright globules. (8) Appearance, meanwhile, of similar bright globules free in the surrounding medium, at first of size smaller than a red corpuscle. These were often attached to the capsule (not infrequently one at each pole), as if in the act of transit. (9) These free bodies, at the end of three weeks, had obviously multiplied and often appeared (as D. figures them) in pairs. They now closely resembled the smaller naked forms found in the stomach and intestines.

It was remarkable in these cultivations that these changes were apparently possible whatever the number of daughter-cells present in a capsule. Repeated drawings with a camera lucida proved the movements to be truly amœboid, and not due to degenerative disruption. Notwithstanding the absence of these changes in the psorospermoid bodies found by himself in epitheliomata (which are quite similar to those observed by Bowlby and Hutchinson, Jun., in Paget's disease), Dr. Delépine prefers not to pronounce an opinion in the absence of numerous experiments in the cultivation of the doubtful bodies, his present paper merely suggesting a method of research. ARNOLD BILL.

INOCULATION EXPERIMENTS WITH PSOROSPERMIA. SAMUEL G. SHATTOCK and CHARLES A. BALLANCE. (*Trans. Path. Soc.*, 1891, pp. 377–81.)

This paper records the negative results of a series of experiments in the inoculation of animals with psorospermia, conducted with a view to the investigation of their possible parasitism in man. The animals chosen were rabbits (four), monkeys (two), and dogs (two). In the case of the rabbits and monkeys, the internal surface of the pinna of the ear was prepared by scarification or by a valvular incision, and inoculated by inunction with the cheesy material from psorospermial nodules in rabbits' livers. In every case the wound healed without causing any specific lesion. A slight hyperplasia of the cartilage of the pinna was noticed in two of the rabbits, but the epidermis was normal. Hypodermic injection of psorospermia suspended in water was also practised without effect on one of the monkeys. In the dogs, copious intravenous injection of psorospermia failed to produce any effect. On careful post-mortem examination of the lungs no emboli could be found.

Attempts to cultivate psorospermia in glycerine agar, nutrient gelatine, and broth at 37° C. yielded, after six months' incubation, negative results. After eleven months' incubation in rabbits' serum there was clear evidence of continued life, but not of multiplication of the psorospermia. Some of these showed a central mass of highly refracting granules, others being granular throughout, and others containing large closely opposed wedges of the refracting substance: others again showed scattered granules. The two layers of the capsule were often distinguishable, the outer having split so as to reveal the inner. "There were present also many free granules, some of considerable size, like those within the capsules, from some of which they had evidently escaped."

ARNOLD BILL.

HYDRADENITIS DESTRUENS SUPPURATIVA. (*Journ. Cut. and Gen.-Urin. Dis.*, January, 1892.)

Under this title Dr. S. Pollitzer describes a case in a man, aged 20 years, who otherwise enjoyed good health and was free from any syphilitic or tuberculous taint. The eruption was limited to the sides of the cheeks, the chin, the region below the lower jaw, the front and sides of the neck and the shoulder at the root of the neck. Little inflammatory nodules appeared in crops numbering from one or two to half a dozen or more, and the successive crops developed at irregular intervals of a few days to several weeks. The neighbouring lymphatic glands were not swollen; there was never any rise in temperature; repeated examinations of the urine revealed neither sugar nor albumen. Pollitzer traced the origin of the growths as a painless cutaneous nodule, the size of a bird-shot inserted at the junction of the subcutaneous areolar tissue with the cutis. These enlarged to the size of a pea in ten to fourteen days, elevating the skin, which reddened, cracked, and desquamated. The overlying skin became adherent, and a little pus formed, which in a few days escaped with a little blood and shreds of tissue from one or more minute openings. If undisturbed, a crust formed and left on its fall a dark reddened skin, then pigmentation, and finally a slightly depressed scar. The affection was considered to be infectious, but bacteriological investigations threw little light on this point. Histologically the tumours consisted of a dense aggregation of small round cells with the character of ordinary inflammatory cells, of epithelioid cells, mostly arranged in clusters of ten or fifteen, and of large multinucleated masses resembling giant cells, which Pollitzer believes were formed of degenerated and broken-up fragments of the sweat-gland epithelium. The reasons for this conclusion he works out in detail, tracing changes in the peripheral sweat-glands onwards through the growth up to the more fully disintegrated fragments forming the giant cells. The diagnosis from various forms of acne, furuncle, syphilis and trichophytosis barbæ is discussed, and the paper concludes with a review of various affections, which the author considers allied to the one he describes. Starting with Bazin's *Hydrosadénite syphilitique*, and Verneuil's *Hydrosadénite phlegmoneuse et abscès Sudoripares*, he reviews the literature appertaining to nodular inflammations of the sweat-glands, and concludes that Barthelemy's *Acnitis* and Lukasiewicz's *Folliculitis Exulcerans* are closely allied to his own case.

T. C. F.

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STAPHYLOCOCCIA* PURULENTA CUTANEA

(Furunculosis, Impetigo, Certain Forms of Folliculitis).

SYNOPSIS OF A LECTURE DELIVERED AT THE SAINT LOUIS HOSPITAL, PARIS, ON JANUARY 27TH, 1892,

BY LOUIS WICKHAM, M.D.
Chef de Clinique adjoint.

PUS is very frequently met with in diseases of the skin. The progress of bacteriology has shown that suppuration may be produced by many totally different causes, the principal of which are:—

(1.) Certain chemical substances—without any microbic participation in the process; *e.g.* essence of turpentine injected into cellular tissue, nitrate of silver injected into cellular tissue of dogs, etc.;

(2.) Microbes of all sorts, *e.g.* the bacillus tuberculosis of Koch, which causes "cold abscesses"; the bacillus anthracis; the virus of soft chancre; the streptococcus pyogenes, the staphylococci pyogenes aureus et albus, etc.

From these facts it results that a work which should succeed in definitely determining the real pathogenesis of the different pus found in diseases of the skin would be of the greatest importance. But the task is a considerable one. Having for a long time directed our studies towards this subject, we propose, in this brief article, to communicate some results at which we have arrived, more especially as regards the action of the pyogenic staphylococci in skin diseases.

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* The word "staphylococcie," proposed by MM. Darier and Wickham, seems now to be accepted at St. Louis to designate the diseases caused by Staphylococci.—ED.

I. The pyogenic staphylococci are so frequently found in what we call "pus," that there is a tendency to identify these two things "pus and the pyogenic staphylococci." This is, however, a great error, and one against which we cannot too strongly protest. Besides, it is a danger from the standpoint of the exact understanding of the pathogeny of the elementary cutaneous lesions. It must be clearly recognized that a "pustule" may be produced absolutely independently of any invasion with staphylococci. Thus, for example, the papulo-pustular syphilides of the secondary period are not caused by staphylococci,[*] and we well know since the recent works of Unna[†] that syphilis may cause pus-formation in its secundo-tertiary and tertiary stages without the intervention of staphylococci. We had previously assured ourselves of these facts by making cultivations on various nutrient media with pus derived from suppurating, but unopened, gummata. Now, our recent researches have demonstrated that even in those cases in which syphilis shows itself in the form of a few little pustules disseminated like those of folliculitis or acne, about nineteen out of twenty do not contain staphylococci. Again, we have been able to ascertain that staphylococci are not always present in all the pustules of certain forms of inflammatory acne.

In order that conclusions from such researches on the pathogenesis of pustules should be of value, one must use for starting cultivations pus from the smallest lesions—from commencing pustules,—and the experiments must be frequently repeated, because, at a given moment—as, for example, often happens in syphilis—staphylococci often *secondarily* invade the lesions. At all events, the fact alone that definite cultures are not obtained from the majority of the pustules examined, allows one to exclude the initial participation of staphylococci in the process; for when these organisms cause the pustules they are contained in them in myriads, so that cultivation experiments from them rarely prove unsuccessful.

II. From the preceding we would draw the following conclusions:—(*a*) If pustules can be formed independently of staphylococci, and (*b*) if staphylococci can penetrate *secondarily* into pustules, it is absolutely necessary, before definite conclusions can be arrived at, that extremely rigorous experiments be carried out as regards the *primarily* pathogenic rôle of staphylococci. And, indeed, these microbes being everywhere—in the air, on the clothes, on the surface of the skin—and being always in readiness to attack the slightest portion of soil favourable for their growth, every time that one finds them they may be present only as the result of a *secondary infection*, and this is most frequently the case. Thus they are present almost everywhere in skin affections, and it is very difficult to know exactly what part they play, the more so as sometimes, although secondary, they become of such importance in the evolution of the other morbid elements as to give a special type, almost characteristic, to the affection. Let us cite as an example the part which staphylococci appear to play in inflammatory acne and in impetiginous eczema,—eczema complicated with impetigo.

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[*] *Vide* L. Wickham, *Union Médicale*, 1892, Nos. 19, 20, 22, 23.

[†] Unna, *Monatshefte für Prakt. Derm.*, 1891.

We therefore believe ourselves justified in establishing the following laws :—The only diseases which ought to be admitted as produced by staphylococci pyogenes must conform to the following experimental conditions, viz. :—

(1.) It is necessary to select for experimentation a perfect type of the affection; (2.) It is necessary to find the parasites in all the essential lesions of the disease or in the great majority of them; (3.) It is necessary to find them in a pure condition, *i.e.* associated neither with streptococci nor with other micro-organisms, to multiply the cultivations on various media and to employ methods of dissociating them; (4.) It is necessary to study the biological characters of the cultures obtained in order to establish that the staphylococcus obtained is really the same as the staphylococcus aureus or albus;* (5.) It is necessary to reproduce the disease with all its characters by inoculation either on animals or on man.

III. The noteworthy researches of Bockhart† conform absolutely and in every respect to the foregoing rules as regards certain folliculites and furunculosis. To this author, therefore, is due the credit of having definitely demonstrated that the microbes of suppuration can, of themselves, produce a cutaneous affection.

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* The thoroughly worked out characters of staphylococcus pyogenes, whether "aureus" or "albus" show that they are both forms of the same parasite; their pathogenic action is so far identical that they must be considered one and the same micro-organism as regards their morbid action.

† *Monatshefte für Prakt. Derm.*, 1887.

Bousquet* repeated and controlled the experiments of Bockhart, with similar results. As regards impetigo, these two authors, while carrying their demonstration a very long way, seem not to have adequately conformed to the totality of the essential conditions we have formulated, in so far as concerns the discovery of the parasite in *all* of the elementary lesions, and the reproduction of the disease with *all* its characteristics. Thus one might feel in doubt as to whether the staphylococci found in impetigo are not secondary. We have resumed these experiments and without repeating their results, which were given forth in a lecture, delivered at the St. Louis Hospital, on January 27th, 1892, and published in the *Union Médicale* (February, 1892, Nos. 16, 19, 20, 22, 23), we shall content ourselves by repeating: (1) that the staphylococci were found in *all* the lesions of true impetigo—the mélitagre of Alibert—in the punctate, erythemato-vesicular lesions, in the pustules, from the smallest to the largest, in the serous fluid exuding from the red impetiginous surfaces when cleared of their scabs and pus by washing, and also in the scabs ; (2) that *all* of these lesions were reproduced by inoculation, and not only the isolated pustules. These researches led us to the complete demonstration of the dictum of Bockhart, viz.: that certain folliculites, that boils, and impetigo are due to the microbes of suppuration, and we have seen that these microbes are really staphylococci to the exclusion of all other pyogenic micro-organisms. It is only necessary to push the reasoning a little farther to be led to the constitution of a new group of cutaneous diseases. Indeed, if these affections are produced by the same microbe, if they are due to the same cause, why should we persist in separating them?

We have succeeded in reproducing impetigo experimentally, not only with cultures taken from the lesions of impetigo, but also with cultures of the staphylococcus taken from different folliculites and also from a vesicle of herpes which had become purulent from secondary infection.

We are now no longer at a period when mere differences in appearance of the morbid elements can constitute barriers between cutaneous lesions. No one now hesitates to refer to the same cause a tubercular ulceration, a "cold abscess" and a lupus vulgaris. Bacteriology has educated us to feel no surprise at such facts, in teaching us that different clinical aspects in affections due to one and the same microbe depend upon complex causes, such as (1) the number of the infective germs; (2) the point of entrance of the parasites; (3) the soil upon which they develop; (4) the degree of virulence of the microorganism.

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* Dubreuilh, *Annales de Dermat.*, 25th April, 1890.

In consideration of the preceding results and of the most strict experimentation, in consideration also of the clinical fact that the pustular lesions we are discussing are often present simultaneously, and that all sorts of transition forms exist between them, we therefore have proposed the constitution of a dermatosis, not indeed new, but conceived and grouped in a new manner. In accord with Darier we have for some years past called this dermatosis "Staphylococcia purulenta cutanea," which for the present comprehends the elements of isolated folliculites, furunculosis and impetigo. The last denominations are worthy of being preserved as designating the special morphology which staphylococcia purulenta cutanea may assume, but the diseases must be considered merely as forms of staphylococcia.

IV. Are there other affections which ought to be included under the heading of staphylococcia? It is in the laboratory that the solution of this question must be accomplished. At present one must be careful not to complicate this new conception, lest in desiring to march too quickly one runs the risk of destroying it at its foundation. We only wish to accept facts which offer such conclusive proofs as to make it impossible not to yield to the evidence. But a certain number of other affections so nearly approach this standard that we are absolutely convinced about several of them; in a matter of this sort, however, conviction is not sufficient; complete demonstration is necessary. These affections are ecthyma, whitlow, styes, the suppurative hydroadenites, non-tricophytic sycosis (or folliculitis of the beard and lips), the depilating folliculites and acne.

In the majority of these affections one is arrested by the invariably negative result of inoculations; but the staphylococci are present in all their lesions, and these different affections are not only autoinoculable but may also be produced by inoculation with the pus of any one of those diseases which are clearly of staphylococcous origin.

Thus an infant has impetigo, the pus from it gets scattered over his body, and we see produced not only boils and folliculitis but one or several of the other lesions which we have just mentioned.

So is it also with ecthyma. No one has been able to inoculate it or to reproduce it with pure cultures of staphylococcus; and we have never succeeded in doing so, perhaps because we have never had a favourable soil. We have always, however, found staphylococci in all the lesions of typical ecthyma, whether taken at their commencement or at a more advanced period. We have found them pure *almost* always; sometimes, but extremely rarely, the cultures have been mixed with streptococcus pyogenes. Streptococci have been found frequently in the ulcerative form in children,* but may these streptococci not be considered "as the bacterium termo which one meets with in certain gangrenous ecthymata" as the result of some secondary infection? If this be the case we should then be dealing with atypical, derivative, modified forms of ecthyma, and we well know that such are not the cases to utilize for pathological study. On the other hand if ecthyma has never been experimentally reproduced, clinical experience constantly demonstrates its existence along with impetigo and furuncles. It is then logical to admit that in these cases the auto-inoculation of the staphylococcus of impetigo has given rise to the lesions of ecthyma.†

Although, therefore, these diseases enumerated cannot yet be definitely ranged as forms of staphylococcia, we nevertheless propose to group and consider them as such in the meantime.

The heading enables us clearly to understand facts which clinical experience explained only with difficulty, as, for instance, on the one hand, the forms of insensible transition between them which exist and, on the other, the frequency of their coincidence in the same patient. Recently we have seen an infant which presented simultaneously some lesions of impetigo, some of ecthyma, two centres of hydroadenitis, scattered follicular inflammation and several boils. At no part was there predominance of one clinical form over another. How ought such an affection to be denominated? It was not an impetigo, as there were quite as many lesions of another nature! Nor was it an ecthyma—etc. It was a type to which the designation "staphylococcia purulenta cutanea" was absolutely appropriate. This type is constantly reproduced in scabies where the essential lesions as well as those caused by scratching constitute multiple paths of entrance to the staphylococci.

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* Baudouin et L. Wickham. Ecthyma térébrant de l'enfance *Annales de Dermat.* December 25, 1888.

† Ecthyma is frequently confounded with impetigo on account of the numerous transitional forms which exist between them, but typical ecthyma has a clinical and objective character essentially different from impetigo. There is not only a pustule on the top of an ulceration, or a black scab covering an ulceration, or a pustule presenting a black scab in the centre; there are small pustules which, in the first instance surrounded by a pink areola, increase in size, flatten, and scab in the centre while the border spreads centrifugally. Soon a large lesion is formed which is more or less scabbed in the centre, surrounded by a *narrow pustular band always spreading at the margin* which is sometimes circular and sometimes serpiginous. This narrow band or collarette and its mode of progression are absolutely characteristic.

Our conclusions may be formulated thus:—

(1.) There exists a dermatosis which is caused by the pyogenic staphylococci; it merits the title of staphylococcia purulenta cutanea.

(2.) This dermatosis presents divers forms according to the predominance of certain of its morbid elements; these forms are furunculosis, impetigo and certain folliculites.

(3.) There exist a large number of suppurative affections with regard to which some bacteriological and experimental facts are still wanting for the complete elucidation of their pathogenic characters. These are, however, so closely allied to staphylococcia that they merit to be classified in a *temporary* group under the name of *probable staphylococcia*.*

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* *Vide* the very interesting communication of Dr. Unna to the Medical Society of Hamburg—January 12, 1892—on the impetigo of Bockhart and epidermic abscesses produced by pus cocci. We had no knowledge of the studies of Dr. Unna on this subject while carrying out our experiments in the latter months of 1891.

ON THE CAUSATION OF TERTIARY SYPHILIS.

A CLINICAL LECTURE.

BY A. HASLUND, M.D.,

Senior Physician to the Municipal Hospital of Copenhagen.

Gentlemen,—The patient presented to you here is a man of 60 years, sound in every respect, vigorous and well nourished. His disease consists in an affection of the skin, for you will see a scar-like rash extending from the upper and outer part of the left arm, over the left shoulder and across the upper part of the breast, towards the right shoulder. This adherent scar is somewhat marbled in appearance; whitish specks vary with brownish pigmented ones, the hollows are of different depths; you see and feel that only the upper strata of the skin have been affected. The edges of the scar are convex everywhere, not forming a continual curve, however, but composed of a series of smaller curves along the whole edge, that on the left upper arm and the shoulder only excepted. You will find a number of pretty closely placed elevations, about the size of a pea, either in the form of yellowish-brown crusts or of brownish-red projections, scaly, and infiltrated ; if we loosen a crust we see that it covers a projection, ulcerated in the middle, and this ulceration is always deep, crater-like, with some pus at the bottom. The ulcerated surfaces are a little tender, the projections are not. All the rest of the skin and mucous membranes are sound, and the glands are not swollen.

The diagnosis of this affection of the skin cannot be doubted. It is such a characteristic serpiginous syphilide of the skin, that you need not at all question the man to define his disease and state the treatment. There is no doubt at all that this man has, at an earlier period of his life, been infected with syphilis. *La signature de la syphilis*, this form of tertiary syphilis was called by Ricord, and in fact there is not any other affection of the skin that adopts this form and presents such a type.

He states he has never had any illness, and is not aware of having ever suffered from syphilis; he admits that he had some venereal affections in his early youth, as well as sores on the genitals, but they were most insignificant, and he has never undergone any antisyphilitic treatment. The present affection of the skin commenced in 1875, when he was re-vaccinated, with a positive result. The pustules pursued their normal course, but close to them protuberances sprang up, ulcerated, and formed circular sores, which steadily increased for years; the old sores healing while new protuberances appeared around them. He never applied for medical advice, as he suffered no pain; nor was he ever prevented from doing his work.

I shall return to this patient later, and I shall show you some more similar instances; but first I shall speak a few words to you concerning tertiary syphilis in general, in reference to its importance, its frequency, its causes, and some other points not generally referred to in text books.

By *tertiary* syphilis, as is well known, is meant those manifestations of the disease which are characterized (as distinct from the secondary eruptions) by the deposition of a syphilitic product, deep in the skin or mucous membranes, in internal organs, in the nervous system, in bones, blood-vessels or muscles, and which, setting apart the different macroscopic forms in which they appear, agree in not tending to resolution, but in leaving, through sloughing and ulceration or organization into fibrous tissue, permanent changes which in the form of scars or contraction of the tissues, lead to consequences more or less serious according to their situation.

The term "tertiary" syphilis is indeed not quite accurate, and, according to our present knowledge of the pathology of syphilis, is even misleading, but it has the advantage of being a time-honoured name, and every one understands what is meant by it, while the attempts, which have been made from time to time, to demolish the division into secondary and tertiary syphilis, have been unsuccessful. The best and most logical suggestion is that of Leloir, who proposes to divide all syphilitic manifestations into *syphilomes résolutifs* and *syphilomes non résolutifs;* but in spite of the excellent idea embodied in this nomenclature, it will certainly be long before it is accepted, even if it ever comes into general use.

The name *tertiary* syphilis was first used by Ricord, who, having undertaken more than fifteen hundred experimental inoculations at the Hôpital du Midi, in Paris, in the years 1831–37, reversed all previously accepted views of the etiology and pathology of venereal diseases. He separated gonorrhœa from syphilis, he proved the existence of the urethral chancre, and divided syphilis into three stages—the primary, the secondary, and the tertiary, each with its decided characteristic features and symptoms.

The *primary* sore (the soft chancre as we now understand it) could be inoculated repeatedly on the individual himself, or on another individual, and would always give a characteristic chancre, the secretion of which, during the stage of ulceration, is inoculable, which it is not during the stage of repair. When the secretion is introduced under the epidermis, a pustule forms, which leads to an ulcer; if applied on a *solutio continui*, we get an ulceration; if introduced into a lymph-duct or a gland, we get an abscess. The chancre mostly gives rise to a suppurating bubo, and the pus from the latter may often by inoculation produce a chancre.

If the chancre becomes indurated—that is, if its base becomes hard and cartilaginous—we have evidence of the syphilitic virus having been absorbed by the organism. After a certain period of incubation, which is of variable duration, the *constitutional* symptoms appear on the skin, the mucous membranes, or in other organs, as in the eye or the testicle. This is *secondary* syphilis, which is not contagious or inoculable, but is capable of being transmitted to the offspring. (? J. J. P.)

A considerable time after the infection, the "tertiary" lesions appear in internal organs, in the nervous system and in the bones. During this stage, the affection is neither contagious nor capable of being communicated to the offspring.

As you will see, gentlemen, this *primary* view of Ricord's does not agree with our ideas of the pathology of syphilis, and Ricord himself was obliged to modify many of his ideas. Thus, persuaded by the experiments of others, he was obliged to recognize two varieties of chancres, the "soft" and the "hard," of which the former had scarcely anything to do with syphilis, and he was obliged to admit that syphilis was contagious during the secondary stage. His *primary* syphilis consequently has nothing to do with syphilis, and at present we have nothing corresponding to it, as the stage during which there is only an indurated chancre, with or without glandular swellings, is by us and most syphilographers not considered as syphilis, but only as a symptom, which, in the majority of cases, will be followed by this disease. Syphilis is only reckoned from the appearance of the constitutional symptoms, and, consequently, we only commence the general treatment at the appearance of this stage. The terms *secondary* and *tertiary* syphilis, however, with the characteristic symptoms stated by Ricord, though somewhat modified as to the secondary stage, are used to this day over the whole world, and are, as said above, understood by everybody.

The *tertiary* stage is characterized, according to Ricord, by the appearance of the " hard " symptoms, and it is generally considered as the most serious, and one which may even lead to death. This, however, is only partly correct, for the danger is determined by the situation of the lesions. A syphilitic lesion in the central nervous system, or in some of the larger blood-vessels may prove fatal to the individual, while a lesion in the skin may run its course without any consequences other than the production of scars ; in the one case the disease demands energetic treatment, if we wish to arrest its progress ; in the other you may find patients who have for ten or twenty years suffered from a tertiary affection of the skin, without diminishing their working powers or affecting in the slightest degree their physical state of health, and when, at last, they are subjected to treatment, the symptoms disappear in a remarkably short time.

The fact is that tertiary syphilis must be looked upon as a *local* affection, which has lost the character of an infectious disease, as distinct from secondary syphilis, where frequently, especially in the " harder " eruptions, the whole body becomes saturated with the virus, the blood and most of the other tissues being capable of communicating the infection ; children born during this period either show signs of syphilis at birth, or develop them shortly after. It is otherwise in the tertiary stage ; here the discharge from the syphilitic lesions is not inoculable, and the children are born free from the disease. Thus tertiary syphilis is by no means a disease dangerous to the community ; and as to its being dangerous to the individual himself, it depends—as we have seen—absolutely on the part affected by the disease. If the disease affects tissues or organs, the functions of which are of very great importance to the organism, illness or death will sometimes occur, but in a great number of cases the disease is confined to the place where it has its seat. The *syphilitic cachexia,* which sometimes develops together with the tertiary symptoms and leads to the death of the individual, may often be ascribed to other non-syphilitic, pathological conditions in the organism, though such a state may of course depend on the presence of the syphilitic products, when affecting organs whose function is essential for the proper preservation of the body.

Is tertiary syphilis a stage of the disease which everybody who has contracted syphilis is absolutely obliged to undergo? By no means; only the minority are attacked by the so-called tertiary symptoms. How many escape, for obvious reasons, cannot be stated correctly, as it is impossible to follow all one's patients throughout life, and even if it were possible, the question would always remain for each individual case, "if the person affected had lived sufficiently long, would he not at some period have developed a tertiary eruption?" But one may get fairly reliable statistics by comparing the number of all syphilitic cases with the number of tertiary cases, treated in a large hospital or in private practice; a correct statement of the frequency of the disease it cannot be, but when the numbers are great, the error cannot be so very considerable. The percentage will probably be a little too high, because it must be admitted that the tertiary symptoms, on account of their more chronic course and situation, are more likely to induce the patient to apply for medical advice or hospital treatment, than secondary syphilis with its often transitory and mild symptoms. You may often find individuals with clear tertiary manifestations who have no idea that they have ever suffered from secondary syphilis.

Of such statistics there are several, and—as you will see—with tolerably concordant results. Rollet found out that, among a large number of syphilitic cases, treated in the Antiquaille at Lyons, 15 per cent. were tertiary; Mauriac thinks that, in Paris, the percentage may be estimated at 5,—15,—20, the lower numbers referring to patients treated privately, the higher numbers to individuals treated in hospitals during the secondary stage. Vojda, during a period of ten years, found from 6 to 8 per cent. of tertiary cases among the syphilitic patients of the Allg. Krankenhaus in Vienna.

I have gone over the records of the cases of syphilis which I treated in the Fourth Ward of the Municipal Hospital of Copenhagen during the years 1882–92, and found out that altogether they numbered 6,364; among these 791 were tertiary syphilis, which gives a percentage of 12·4. There is only a very slight difference in the proportion of men and women: of the 6,364 cases, 3,490 were men, among which 454 were tertiary, which gives 13 per cent., and 2,874 women, with 337 tertiary cases, that is, 11·7 per cent.

As you will see, these calculations agree pretty well, and they prove, as said before, that the percentage is not very large.

Is it possible to determine beforehand, in each case, whether tertiary symptoms will be developed or not? From the symptoms of disease it is not possible to judge. The appearance, the situation, the extent, or course of the primary chancre scarcely gives any clue as to the nature of the subsequent secondary stage—whether it will be mild or malignant, of short or long duration. Still less can it be foreseen whether any tertiary symptoms will appear; the latter frequently appear as well marked after quite an insignificant primary sore with very slight induration, followed by a mild secondary stage of short duration, as in cases where the chancre was large, ulcerated, and of long duration. Nor does the shorter or longer persistence of the glandular enlargement give any information in this respect, as was formerly believed.

We shall, however, see that there are conditions in the individual himself which are of the greatest assistance in answering the question, and that, at a later stage of the disease, we may, by investigating the individual's mode of life during the preceding part of the disease, and the treatment of the latter up to this period, be able to judge of its later course with a moderate degree of certainty. We must, however, always bear in mind that syphilis is an infectious disease, and though we do not yet know its virus or its bacillus for certain, it resembles other infectious diseases in the fact that the intensity of the disease is in direct proportion to the strength and quantity of the inoculated "poison," and depends on the nature of the soil in which it is inoculated. That the syphilitic poison may be of different strength, that it may, like the bacillus culture, be attenuated, is evident from the study of congenital syphilis. It may be laid down as a rule, almost without exception, that congenital syphilis appears with slighter and less serious symptoms, if only one of the parents is labouring under it; that it is more fatal and rapid in its course, when conception has taken place during the active stage in one of the parents, than during a latent period; and further, that the longer the time that has elapsed since the infection of the parents, the bigger and stronger is the child at its birth, and the more easily the symptoms will disappear; finally, the rational treatment of the parents before the conception has occurred, and of the mother during her pregnancy, has a decidedly favourable influence on the health of the child.

The strength of the "virus" seems to be of more importance than the nature of the soil into which it is inoculated; but we have, unfortunately, no means of measuring its virulence. You will find that syphilis contracted from a single woman by several men within a short space of time runs in all cases a very severe course, the different constitutions of the different men set apart; but then we also see that the very same woman may give to a number of men syphilis differing very much in degree and severity; in some cases we shall be able to point out, in those men who are severely attacked, a constitution impaired by some past or present constitutional weakness; while in other cases we must declare ourselves perfectly ignorant as to the causes of the malignancy of the disease.

As to *the date of the appearance of tertiary syphilis* after the infection, this, as is well known, varies; tertiary cases are not always "late" cases; there are instances of such manifestations appearing only a few months after contracting the disease. Then, again, we not infrequently find that tertiary syphilis does not appear till many years after the infection; in some cases there may even be thirty or forty years or more between the two periods, and patients who have almost forgotten that they have once had a chancre are much surprised to hear that the ulceration in the throat, or the exostosis on the shinbone that causes them to consult the physician, is directly connected with an insignificant chancre, or a mild attack of syphilis in their youth. Among the statistics of the famous syphilologist Fournier, dealing with tertiary cases personally observed by himself, you will find, out of 2,395 cases, some that took place fifty-two, fifty-four, and fifty-five years after the infection. In his statistics, however, the greatest number occur in the third year, and almost as many in the fourth and second years, so that this triennium, according to his statistics, is the most frequent time for tertiary syphilis to appear. From the tenth or eleventh years after the infection there is a gradual decrease in the number of cases until the fortieth year. In exceptional cases only, as stated above, do the symptoms appear after that time.

Among my 791 cases of tertiary syphilis the dates of the appearance of symptoms agree fairly well with those of Fournier; the greatest number occurring within the first four years after infection. In men the first appearance is common until the twelfth year, after that it is less frequent. In women, however, the frequency seems to decrease considerably after the sixth year. In my hospital statistics I have not a single case in which more than thirty or thirty-one years have elapsed between the infection and the eruption of tertiary syphilis; but from my private practice I know some cases in which there have been forty years and more between the two stages.

In order to get, if possible, a clearer idea of *the causes of tertiary syphilis* and their importance, I have divided my 791 cases into three classes, viz.:

A.—The cases of syphilis which have not been previously treated.

B.—Where treatment has been adopted in the secondary stage, but imperfectly carried out, being either of too short duration, or having been commenced too late in the disease.

C.—Patients that have previously been treated rationally, having been treated on several occasions with mercury and with iodide of potassium or decoctum sarsaparillæ.

In these three classes the cases are distributed as follows:—

In the group "A"	111	men,	120	women.
„ „ "B"	284	„	177	„
„ „ "C"	59	„	40	„
Together	454	„	337	„

Therefore, of 791 cases of tertiary syphilis there are 395 men and 297 women who have either not been previously treated in any way for syphilis, or have only undergone an imperfect treatment at an earlier stage of the disease.

I therefore consider *that the want of a proper course of mercury, during the secondary stage of syphilis, is the most important and most frequent cause of the development of tertiary symptoms.*

So it is in group "C," comprising ninety-nine individuals, that we must look for other causes which may predispose to the onset of tertiary symptoms. By a careful study of these cases, and taking into consideration the health of the individual, the history and course of the attack of syphilis, the life the patient was leading during the attack, the conditions under which he was living, and the manner in which he was treated during the earlier stages, I have arrived at the conclusion that, besides the above-mentioned cause, the importance of which cannot be sufficiently laid stress upon, I must also mention the following:—Chronic alcoholism; the co-existence of other chronic or infectious diseases; infection at an advanced age; conditions which diminish the power of resistance of the organism, such as anxiety; infection imported from other latitudes; preceding or following infection of malaria or some other climatic fever; idiosyncrasy or intolerance of the individual to mercury.

Among the ninety-nine individuals of group "C" there are only twenty-four (twelve men and twelve women) in whom I have not been able to assign any reasonable cause for their having been attacked by the tertiary disease. The patients in every case are young or middle-aged persons of apparently good constitution; they are not known to have indulged to excess in any respect, and the conditions in which they have lived are neither bad nor unwholesome. They have all been treated at an early stage, and have undergone several, often many, courses of mercurial treatment. The question, then, only remains, whether the form of mercurial treatment to which they have been subjected has in these cases been the right and most beneficial one. Inunction is the mode of administration which has always been adopted, as is customary here, and though I consider this method to be, generally, the most effective, it must be remembered that there are individuals for whom it is not suitable; the main point in this mode of treatment is to rub the ointment into the mouths of the follicles; but there are individuals whose follicles are so small and narrow that this cannot be done, or, at least, is very difficult; for when a patient has a thin, delicate and dry skin, you will never, by rubbing the ointment in, obtain a dry condition of the skin, which is the essential point in this method of administration. Further, in this country we leave the patients to carry out the treatment themselves; for various reasons, it is impossible to arrange it otherwise. Now, though this inunction takes place to a certain extent under supervision, it is not always possible to see that each patient carries out the treatment efficiently, and for the proper length of time, *i.e.*, twenty or twenty-five minutes. Many of the patients have also in the earlier stages been treated outside the hospital, which renders the treatment all the more uncertain; besides, physicians generally commit the error of not instructing the patients sufficiently as to the manner in which the treatment is to be applied, nor do they observe with sufficient care the effect or non-effect of the mercury. It is not sufficient to write a prescription for grey ointment, and tell the patient to rub himself with it at night before going to bed; the most minute instructions must be given, and it must be seen that they are carefully attended to; if this is not done, you may be sure that the patient does something wrong; it is best to take it for granted that the patient is ignorant in every respect. I therefore think that in these twenty-four cases, or, at any rate, in some of them, the earlier courses of mercurial treatment have not been applied in the right way, or that the way in which they have been prescribed has not been the most suitable one for the case.

Since—as I said above—the consequences of tertiary syphilis vary so much according to the situation of the lesion, it is of interest to see with what frequency, in this country, it attacks the different organs.

I will ask you to direct your attention to the first list I have here; it expresses in numbers the frequency with which the different organs of the 454 men were affected with tertiary syphilis, divided into the three classes which I called your attention to above:—

List I.—*Men.*

	"A."	"B."	"C."	Together.
The skin and the subcutaneous (fibrous) tissue . .	38	83	23	144
The skin and the mucous membranes	6	11	4	21
The skin and the mucous membranes and the osseous system	3	3	...	6
The skin and the mucous membranes and the nervous system	1	...	...	1
The skin and the osseous system	7	18	1	26
The skin and the nervous system	5	7	2	14
The skin and the osseous and nervous system . .	2	1	...	3
The skin and internal organs	4	9	1	14
The skin and the osseous system and internal organs .	...	6	..	6
The mucous membranes	7	12	5	24
The mucous membranes and the osseous system . .	7	3	5	15
The mucous membranes and the nervous system . .	...	1	...	1
The mucous membranes and internal organs . .	...	2	1	3
The mucous membranes and the osseous system and internal organs	...	1	...	1
The osseous system	7	26	3	36
The osseous system and internal organs . . .	1	4	...	5
The nervous system (including the organs of special sense)	21	83	13	117
The nervous and the osseous system	1	5	...	6
The nervous system and internal organs . . .	...	1	1	2
Internal organs	1	8	...	9
Together . . .	111	284	59	454

From this it appears that the *skin* was attacked 235 times; the *nervous system*, 144 times; the *osseous system*, 104 times; the *mucous membranes*, 72 times; *internal organs*, 40 times.

This was the result in men. Now, let us look at the other list, which refers to women—

List II.—*Women.*

	"A."	"B."	"C."	Together.
The skin and the subcutaneous (fibrous) tissue . .	44	72	15	131
The skin and the mucous membranes	9	12	5	26
The skin and mucous membranes and osseous system .	2	3	4	9
The skin and the mucous membranes and the osseous and nervous system	1	...	..	1
The skin and the mucous membranes and the osseous system and internal organs	1	1	...	2
The skin and the osseous system	15	18	5	38
The skin and the osseous and nervous system . .	1	2	1	4
The skin and the osseous system and internal organs .	1	...	...	1
The skin and the nervous system	3	2	1	6
The mucous membranes	7	15	3	25
The mucous membranes and the osseous system . .	3	8	...	11
The mucous membranes and the osseous and nervous system	1	1	...	2
The mucous membranes and the nervous system . .	1	1	...	2
The mucous membranes and the osseous system and internal organs	...	1	...	1
The osseous system	19	13	2	34
The osseous system and internal organs.	2	1	...	3
The nervous system (including the organs of special sense)	10	25	4	39
The nervous and osseous system	...	2	...	2
Together . . .	120	177	40	337

We find the *skin* attacked 218 times; the *osseous system*, 108 times; the *mucous membranes*, 79 times; the *nervous system*, 56 times; *internal organs*, 7 times.

While thus in both sexes it is found, in this country, that the skin is the part most frequently attacked by tertiary syphilis (in all 453 times), while the osseous system and the mucous membranes are somewhat more frequently attacked in women than in men; it is, however, worth observing the difference in frequency in the two sexes with which the nervous system and the internal organs are the seat of tertiary manifestations; here, they are considerably more common in men than in women. I have no doubt that this is due to alcoholism, which is much more general among men than women.

For both sexes together the order in frequency of the situation of the lesions is the following:—

The *skin*, 453 times; the *osseous system*, 212 times; the *nervous system*, 200 times; the *mucous membranes*, 151 times; *internal organs*, 47 times.

The skin being so frequently attacked, more than twice as often as any other organ, explains the fact *that tertiary syphilis mostly appears in a mild form in this country*, the disease seldom involving loss of vigour, incapacity, or death.

I have several times used the expression "in this country," and you might, therefore, be entitled to ask: Does tertiary syphilis vary in different countries? I think it does, for I am of opinion that the customs of a nation, their manner of living, and grade of civilization have some influence on the course of such a disease as syphilis. The education of the people, and of the physicians themselves, is a matter of great importance, for, as I have shown, the non-treatment or the inefficient treatment during the earlier stages is one of the most frequent factors in the production of tertiary syphilis. For this reason the "Jutland Syphilide," the "Norwegian Radesyge," the "Faleadina of Istria," the "Scotch Sibbens," which names were originally given to the tertiary form of syphilis, are becoming more and more obsolete as civilization advances and the treatment of syphilis is better understood. The statistics of the situations of the lesions in tertiary syphilis, such as those I have given you, are not numerous; some, however, exist, and according to these the frequency of the tertiary manifestations correspond very nearly in the different countries, and the gravity of the disease depends entirely on the situation of those manifestations. But such statistics are often misleading, and the difference in frequency with which the same organ is found to be affected in two such tables, may arise from causes that are not at once obvious. As an instance, I shall take the above-mentioned excellent statistics by Fournier. There we find the nervous system is most frequently affected, for out of 3,429 cases the disease was situated here in 1,085.

How shall we account for this great difference? I think that it mostly depends on the fact that our materials are gathered from different sources. While mine are derived from hospital patients, that is, essentially from the working classes and the lower ranks of society, those of Fournier are derived from his private practice, probably mostly consisting of individuals of the higher classes and the wealthier population. In the latter the nervous system is certainly more " worn out." The daily occupation in the case of the working classes consists of manual labour, in the higher classes of society of mental study; and this in itself renders the individual liable to affections of the nervous system. The ordinary stimulants to the nervous system, alcohol, tobacco and narcotics, are presumably used, if not in greater quantities, probably in a more concentrated or injurious form, in the higher classes of society.

These considerations naturally lead to the question, *Do we know why tertiary syphilis attacks different organs in different individuals? Can we state the reason why tertiary syphilis localizes itself where it does?* The answer is, that in many cases it is a mystery to us, but that, by a thorough inquiry, not only into the history of the disease, but also into the life and the conditions of the patient, we may in some cases find, if not always plausible reasons, at least suggestions or possibilities, which will gain importance the oftener they are found.

I shall state the result of my examinations and observations in this respect.

As is well known, there are individuals in whom the lesions, throughout the whole stage of secondary syphilis, are confined to the skin, and others in whom the mucous membranes are exclusively affected; however many relapses such individuals may get, the lesions will always localize themselves in the same organs. The skin or the mucous membranes in these patients seem to be a *locus minoris resistentiæ.* Now if these patients develop tertiary symptoms, we shall see that in this stage also the very same parts are affected. Now, in these cases, have the skin and the mucous membranes still maintained their deficient resistance? This is possible, but I rather think there are other causes. It might also be thought that from the previous attacks there had been left at certain places a deposit of the virus, which for some reason had been called into activity. Neumann's examination of pieces of skin which had long ago been the seat of a syphilitic eruption, and which, macroscopically, proved to be perfectly normal, but in which, by microscopical examination, he found undoubted pathological changes, speaks highly in favour of this view. The fact that in patients you may see tertiary symptoms appear exactly on the same spot where the secondary ones have had their seat, is another proof of the correctness of this opinion. I have thus seen cases where gummata appeared on the very same spot on the tongue or in the throat, where there had formerly been relapsing papules. I have also seen gummata in the skin appear in the still feebly pigmented scars left after a papulo-pustular syphilide which occurred many years before, and in the osseous system you may see periosteal gummata situated exactly where in the early secondary stage you found a light periosteal thickening or tenderness. An instance, which also very much supports the correctness of this supposition, is the so-called *chancre redux*, of which I am glad to be able to show you a case.

You see here a workman, thirty-seven years of age, who was, ten years ago, treated several times at this hospital for a slight secondary eruption; he had an indurated chancre in the sulcus coronarius, universal adenitis and macules; the second time also roseola and papules around the anus. Since that time he states that he has not observed any signs of the disease. About a month ago he discovered, at the very same spot where the first chancre was situated, a slight ulceration, which afterwards increased. He did not consider it of any importance, as he was sure that he could not have been infected; he is married, and has not cohabited with any person other than his wife. As the ulceration, however, increased, he applied for medical aid at this hospital.

You now will see on the left side of the sulcus coronarius a deep ulceration, the size of the kernel of a nut, the base of which is covered with pus, and which has rather sharp edges. It is in the centre of a considerable elevation, which you can easily see, and more easily feel, on account of its hardness and the sharpness of its edges; it is almost as large as a Danish crown, and extends deeply into the corpus cavernosum. There are no glandular swellings in the groin, and no other signs of syphilis. He states himself that the first chancre had quite disappeared, and the previous notes of his case bears out this statement. So you find here a typical ulcerated tertiary lesion at the seat of the old chancre, and we must, therefore, suppose that, in spite of the perfect healing of the chancre to all appearance, there remained a virus, which for some reason had become active. Later in the term you will see that the treatment which will be applied to heal the ulceration and make the induration vanish, is the one we generally apply in tertiary cases, and that the disease will continue as a mere local affection, without later general symptoms. Such a *chancre redux* is often mistaken for an indurated, ulcerated chancre; the history, the want of glandular swellings, and the absence of secondary symptoms ought to prevent such a mistake being made, the importance of which you will easily see.

Besides this tendency for certain products to remain in the tissues after the earlier syphilitic manifestations have disappeared, other non-syphilitic, pathological conditions seem to determine the localization of the tertiary symptoms. Thus, a previous tubercular affection of the skin, mucous membranes or bones, seems to predispose to the development of tertiary syphilitic lesions in those tissues, and in the very same situations. If a patient with some affection of the central nervous system, for instance epilepsy, contracts syphilis, which is not cured in an early stage, he is very liable to be the subject of syphilitic disease of the brain. Again, you will often notice that the syphilitic sarcocele follows on a gonorrhœal epididymitis.

Hereditary predisposition certainly seems to determine the localization of tertiary syphilis; this is most clearly observed in the nervous system; here you can almost with certainty foretell the fate of your patient, should he reach the tertiary stage.

Finally, I shall mention the part which *traumatism* plays in tertiary syphilis; it is, in my opinion, very great, probably even greater than is generally supposed. I do not think that a single injury, or a series of injuries, can give rise to a tertiary syphilitic lesion at any place, but I think that traumatism is in many cases the exciting cause—the "something" which rouses the virus into activity, when it accidentally finds a spot where the latter has been deposited.

To return to our first patient: I am convinced that vaccination is the cause of the reappearance of the syphilitic manifestations, which have been latent for so many years. I suppose that, at this spot, which is so frequently the situation of a secondary eruption, there has been a virus deposited in the skin, which has been called into a state of activity by the inflammation produced by vaccination. I consider that the reason why this virus has remained after so many years, lies in the fact that no treatment was adopted during the secondary stage.

I can show you another patient here in whom vaccination acted in a similar way. He is a boy of twelve years, short in stature, but well-developed; the bridge of his nose is only slightly depressed; two incisors in the upper jaw, the four incisors, and both the eye-teeth in the lower jaw have deep transverse furrows in front. The eyes are normal, the hearing unimpaired. His appearance is suggestive of congenital syphilis, and this is borne out by the fact that his father has several times been treated for syphilis in this hospital. It is said, however, that he did not show any symptoms of syphilis until he was six or seven years old, when he was vaccinated, after which he developed an affection of the skin, which started from the vaccine pustules, and steadily increased. Some years later similar affections appeared on the right elbow and right leg.

On the outside of the left upper arm, the spot where the vaccination is generally performed, you see a surface of about the size of a card, which has cicatrized irregularly, the scars having clearly arisen from closely-placed ulcerations, each about the size of a pea; outside this cicatrix are seen several scars of a similar appearance; on the surface of the scar, and especially along its margin, you see about ten copper-coloured nodules, each about the size of a pea: some are covered with scales, others with crusts. On the right arm, just below the elbow, you find a smaller group of similar cicatrices, with some fresh nodules at the margin, and on the anterior aspect of the right leg you find another group of five scars; but here there are no nodules. Thus the first lesion here is caused by the vaccination, while the others we must attribute to injury, and, at any rate, they exist in situations which are frequently exposed to traumatism.

I must also call attention to the frequency with which traumatism gives rise to periosteal gummata; why else should they most commonly affect bones that are subcutaneous and liable to injury? It is just on the prominent parts of the frontal bone, sternum, clavicle, the posterior border of the ulna, and the anterior border of the tibia, that we most frequently find these affections. In the leg, where you will frequently find cutaneous and subcutaneous gummata, we must, in addition to traumatism as a cause, lay stress on the irritation to which the tissues are subjected on account of venous dilatation and stasis, which are so common in this situation although this can only be said to be a predisposing cause.

Gummata in the tongue and testes, you will often by a careful examination be able to trace back to some injury. Here is a man with double sarcocele and another tertiary manifestation in his face, for both lesions traumatism has evidently been the determining cause. He is a working man, twenty-eight years of age, and of alcoholic appearance. He was infected in 1883, but not treated until a year later, and only on one occasion. In 1885 he got a severe blow on the scrotum; the testes swelled, but the swelling subsided. They have, however, from time to time, increased in size. Two months ago he was kicked by a horse on his "nose and mouth." After this the affection of the nose developed.

The right testis is the size of a duck's egg, hard and heavy, but not tender, with numerous irregularities. Both the testis itself and the epididymis are affected. The left testis is the size of a hen's egg, and is similar to the right one.

On the lower part of the nose and adjacent part of the upper lip you will see a deep ulcerated surface with elevated edges; almost the whole cartilaginous septum has been destroyed, and the ulceration extends some distance inside the nose. I consider that the localisation of the lesions in this case is certainly due to the injuries he received, and that the reason he has become affected with tertiary syphilis must be ascribed to his very imperfect treatment in the early stages of the disease, and to his alcoholism. With reference to his sarcocele, I may mention that he has never had gonorrhœa.

I shall show you another case of tertiary syphilis of the skin, where the injury, which has been the cause of the outbreak, is rather curious. The patient is a waiter, and alcoholic; he is thirty-seven years of age, and was affected with syphilis in 1874, when he was treated in this hospital by fifty inunctions. He thinks he has not had any eruption since then, and at any rate he has not been treated for syphilis. Now you see that in the left inguinal region, stretching towards the pubes, partly on to the dorsum of the penis, and a considerable distance along the front and outer side of the thigh, is a scar about twice the size of the palm of a hand, irregular and pigmented, bounded by a series of projections, each about the size of a pea, which run into one another, and by deep, sharply-cut ulcers, partly covered with crusts. This affection commenced about four months ago with a wound on the front of the left thigh, corresponding to the position of his left trousers' pocket, in which he always carried his keys and loose money. The wound could not be got to heal; it was being constantly irritated by the contents of his pocket, and it continued to increase, while the central part soon commenced to heal. You will see it is in every way comparable to the affection of the skin which I showed in the first patient I presented to you. *C'est la signature de la syphilis.*

THE SECOND INTERNATIONAL DERMATOLOGICAL CONGRESS

Will be held in Vienna from September 5th to 10th, 1892. The fee for Membership is one pound (twenty marks), and may be paid on or after July 6th.

The General Secretary is Dr. Gustav Riehl, Vienna 1/20, Bellaria strasse 12, to whom applications for Membership, announcements of papers, and all questions may be addressed.

Members who desire to read papers or give demonstrations are requested to announce them to the General Secretary by July 15th, and preference will be given to papers, &c., thus announced.

The Committee of Organization will be presided over by Professor Kaposi.

The following questions determined by the Committee will be brought forward:—

1. Lymphatic Diseases of the Skin, by Dr. Paltauf (Vienna).
2. Leprosy in Europe, by Drs. Arning (Hamburg) and Peterson (St. Petersburg).
3. Dermatomycoses especially in France, by Dr. Feulard (Paris).
4. Syphilis Tardiva, by Prof. Neumann (Vienna).
5. Anatomy and Development of Skin Pigment, by Prof. Jarisch (Innsbruck).
6. On Psorospermosis, by Prof. Boeck (Christiania) and Prof. Neisser (Breslau).
7. The Principles of Treatment of Gonorrhœa, by Prof. Neisser (Breslau).
8. Lupus Erythematosus, by Mr. Malcolm Morris (London) and Dr. Veiel (Canstatt).

Many other interesting papers will be read.

CURRENT LITERATURE.

MELANOSIS LENTICULARIS PROGRESSIVA (KAPOSI'S DISEASE).

(*Archiv für Dermatologie und Syphilis*, XXIII, Jahrgang, 1891, 5 Heft.)

Edmund Stern describes a case of this disease in a boy aged 12. The boy had suffered from some eruption of the face in infancy, and, when nearly two years old, his face became covered with freckles, though he was little exposed to the sun. Several brothers and sisters are subject to freckles. The present affection began two years before admission as a red tubercle on the left temple, which having ulcerated was cauterized, and afterwards excised in a hospital, with the result of leaving an open wound, communicating with the dura mater, and producing symptoms of meningitis. After this other tubercles appeared, which had been growing about two months, and still remained. The face presented three characteristic signs of the disease: (1) numerous light brown pigment spots like ordinary freckles, symmetrically arranged over every region of the face and the ears; (2) Teleangiectases, few in number, but of not inconsiderable size, scattered about in the same regions; (3) on the left side of the face were, in addition to the operation-wound, three cutaneous tumours, one in front of the ear, two behind the former, deeply ulcerated and infiltrated, the latter round tumours the size of a cherry, or larger, with slight ulceration. All were adherent to the subjacent tissues. The neighbouring lymphatic glands were also enlarged and adherent to the skin. The tumours presented on microscopical examination all the characters of epithelial carcinoma. The skin of the face as well as elsewhere was otherwise quite healthy, showing no atrophy, cicatrization or special dryness. The general appearance of the boy was pale and very cachectic; the external organs normal. The hair was brownish-yellow; the irides green.

After treating the meningitis, a course of arsenic in the form of "Asiatic pills," increasing to 9 milligrams daily, was prescribed, and in four months the tumours had entirely disappeared, the glandular enlargements lessened, and the general condition greatly improved. After a year and a half a new tumour appeared on the lower jaw, and the former ones reappeared in a few days. Another three months' course of arsenic reduced the tumours so that nothing remained of them but a bluish discolouration of the skin. At the same time there were signs of a considerable tumour in the sacral region growing from the lower vertebræ, which ulcerated, and was undoubtedly "sarco-carcinomatous" in character. After a long course of arsenic it superficially healed. The boy has been under arsenic for more than two years, having taken in all 3,000 pills of 3 milligrams; and this treatment Stern proposes to continue. J. F. P.

IMPETIGO HERPETIFORMIS. (*Archiv für Dermatologie und Syphilis*, XXIII, 1891, 5 Heft.)

Theodor du Mesnil gives the further history of a remarkable case of *Impetigo herpetiformis*, described by him in the same journal for 1889.

It is notable that the patient's mother was said to have suffered, and indeed died, from the same disease, combined with an abdominal tumour.

The patient was a married woman, who had had three recurrences of the disease. The first occurred when she was not pregnant, and after severe fever and imminent danger to life, passed off after four months. The second attack came on during pregnancy, and after a premature birth in the seventh month passed away. The third attack, now described, also occurred during pregnancy. The eruption was specially developed round the genitals, the inguinal regions and adjacent parts, consisting of pustules varying up to the size of a lentil, arranged in groups like Herpes. The remarkable feature was the complication of granulations and overgrowth, which in two places formed papillomata the size of a pigeon's egg. The mucous membrane of the mouth and tonsils also showed deep ulcerations. There was no fever at first, but afterwards rigors, temperature of 38·5° C., and vomiting occurred. A normal birth of a female child was followed by fresh eruptions, with high fever, up to 39° C. After some relapses the mother completely recovered, being treated with arsenic and the continuous bath.

The most remarkable fact was that the child came into the world with a pustular eruption on the hands and face, which afterwards extended; and also ulcerations of the mouth. The eruption differed from that of the mother in consisting of isolated vesicles and pustules without any herpetic arrangement. After some relapses the child was dismissed free from skin disease. An elaborate account of the histology is given, for which we must refer to the original.

Du Mesnil is inclined to refer the origin of the affection to a morbid weakness, or irritability of the vasomotor centres; of which other symptoms, such as spasmodic neuralgia, strabismus, hyperæsthesia of the skin, cardiac palpitation, excessively rapid pulse, sweating, etc., were presented by his patient. He brings it into connection with the occurrence of Herpes zoster and Urticaria bullosa after the use of arsenic, in which a neurotic idiosyncrasy determines, as he thinks, this peculiar toxic action of the drug. J. F. P.

TWO CASES OF MYCOSIS FUNGOIDES. (*Journ. Cut. and Gen.-Urin. Dis.*, Jan., Feb., 1892.)

Drs. Stelwagon and Hatch record two cases of this disease, with bacteriological investigations and a description of an autopsy. Some interesting illustrations are given. The first case, in a Russian woman of forty-three, was rather unusual, in the fact that the period of tumour formation was practically concomitant with the eczematous and erysipelatous outbreaks, the disease presenting in its very beginning the characteristic new growths. The authors state, however, that it was not possible to acquire a very accurate history. Apart from the tumours the case would have been readily mistaken for an eczema. When an exacerbation took place, which happened every few weeks or month, some parts of the surface became almost erysipelatous, and, where tumours were about to arise, simulated true erysipelas. Some of the growths, which had appeared earlier in the course of the disease, faded completely away, leaving no trace, or only a pinkish-brown, slightly scaly skin. Others disappeared partly, and then remained for some time as slightly elevated, flattened desquamating tumours. A large ulcerating tumour upon the hand was, upon the whole, steadily progressive. Occasionally, especially when there was a general exacerbation of the eczema-like eruption, the face would become considerably swollen. Indeed, in the whole course, the skin manifestations were made up of a medley of what could have been at different times variously looked upon as eczema, erysipelas, leprosy patches, and new growths. The lymphatic glandular system was not specially involved. Itching and burning of variable intensity were present. The temperature rose at the time of the eczematous outbreaks, towards the end of the case it was slightly raised in the evening, and in the last month it was rarely down to the normal. No good resulted from the exhibition of Fowler's solution in increasing doses by the month. The woman died about fifteen months after the onset of the disease.

The second case was in a man, aged 39, and the lesions developed to a far greater extent. The first symptom was an itchy, reddened, scaly patch on the anterior axillary fold of the left arm, which disappeared in a year. Then came and went several red, itchy patches on the arms and elsewhere, and henceforth the skin was never absolutely clear. The man was often treated for eczema. Some years later itchy, solid lesions from a pea to a cherry in size appeared, and about a year or so before his admission under Dr. Stelwagon, and about twelve years after the onset of the malady, tumours proper formed, springing from the healthy skin. They were at first few in number, scattered, cherry-sized, and temporary. Subsequently they became more and more numerous and larger, but tended to disappear. The skin got markedly eczematous, and tumours thickly studded the greater part of the surface. The general health was for a long time very good. On admission the eruption was made up of itching eczematous symptoms, and of 500 to 600 more or less painful tumours, viz., small pea to egg-sized, or even tomato-sized fungoid discharging growths, several of which were to a slight degree, and several to a marked degree, pedunculated. A few subcutaneous abscesses resulted from necrosis of the interior of some tumours. There was no special enlargement of the lymphatic glands. The temperature fluctuation was insignificant. The debility increased, the fever became more continuous, diarrhœa set in, and the man died about thirteen years after the occurrence of the first symptom. Hypodermic injection of Fowler's solution (♏ v increasing to ♏ xv daily) was tried. No metastatic growths were found on post-mortem examination, but there was evidence of a widespread inflammatory state of the serous membranes, congestion of the lungs, a fatty and cirrhotic liver, fatty kidneys, and enlarged spleen with old hæmorrhagic infarcts. Histological examination was made of the skin in both cases. Sections of fully developed tumours disclosed an infiltration of lymphoid cells lying in the meshes of a fine embryonic connective tissue stroma. The cells were slightly oval, varying in shape and size, about as large as a white blood-corpuscle, with very large nuclei. Nutrition probably took place through channels as in the sarcomata. Here and there were areas of cheesy degeneration. The erythematous tissue showed considerable round cells in spots, turgescence of capillaries, and dispedesis of red blood-corpuscles.

Laborious bacteriological investigations were also carried out, and bedside inoculations with material taken directly from the patient were made with a guinea-pig and a rabbit in the second case. *Micrococci* were cultivated and also stained by Gramm's method in the tissues. For the details of the experiments we must refer our readers to the original article. Inoculation experiments made with cultures in rabbits and guinea-pigs failed to excite any cutaneous lesion. The animals inoculated at the bedside are so far alive and well.

This excellent report concludes with a survey of our knowledge of Mycosis fungoides and a bibliography of recent literature. T. C. F.

PSOROSPERMOSIS CUTANEA VEGETANS. Prof. SCHWIMMER, of Buda Pesth. (*Transactions of the German Dermatological Society;* Congress III., held at Breslau, 1891.)

Prof. Schwimmer related a case of this disease of which the following are the leading features.

N. N., a peasant woman, æt. 40, admitted to the skin clinic with an eruption which she had had for some months past. The whole integument was more or less altered in character by the presence of papules varying from a hemp-seed to a lentil in size, and from a sepia brown to a lilac tint in colour. They were usually grouped, seldom solitary, most thickly distributed on the nape, mons veneris, anal region and inner aspect of thighs, and in decreasing intensity in the axillæ, abdominal and dorsal regions, flexures of the joints, temples and aural regions. At a distance the neck looked as if covered with a fur collar, and at its junction with the hairy scalp it had a moist appearance and was partially covered with thin scales. The papules in the axillæ were covered with firmly adherent crusts, those on the flexor surface of the knee and elbow were grouped in the centre, becoming radially discrete. The skin of the fingers and toes showed poppy-seed-sized growths (absent on the extensor aspect), and looking like coarse and fine grained sand inserted under the epidermis. The palms and soles were free from eruption, thickened and deeply pigmented.

A typical papule was soft, prominent, and separated by a deep furrow from adjacent ones, apex umbilicated, sometimes horny and sometimes covered with a scab, the result of scratching.

In the neighbourhood of the groups which were best developed in the genital region isolated efflorescences were noticed in various stages of growth. The skin in areas free from the eruption was thickened, harsh, and felt like a nutmeg-grater; on that of the face, especially in the naso-labial folds, gaping sebaceous orifices were present. The external auditory meatus was thickly studded with the growths, materially interfering with hearing.

The patient complained of local tension and irritability, particularly where the papules were most crowded; otherwise her general health was good. Microscopically, the papules in every stage showed abundant psorospermia.

Treatment.—Arsenic by the mouth and subcutaneously; resorcin, icthyol, menthol and similar preparations locally applied. Unfortunately no result worth mentioning was achieved; tar and sublimate baths alternately relieved irritability most. Hearing was much improved by ablation of the growths from the ears with the cautery.

At the end of three months, the patient began to suffer from digestive troubles and fancied that the similar growths were developing inside her; she became depressed and returned home. Two months after, she died from exhaustion and debility. No autopsy took place.

FRANK H. BARENDT.

THE PRESENT POSITION OF THE DOCTRINE OF PSOROSPERMOSIS. Prof. NEISSER, of Breslau. (*Transactions of the German Dermatological Society;* Congress III., held at Breslau, 1891.)

Professor Neisser, after alluding to the importance of our knowledge of Psorosperms, not only as regards dermatology but also as bearing upon the wider field of the ætiology of cancer, submits that there is no absolute proof that the intra-cellular structures are parasites and not, after all, mere products of abnormal cell proliferation or degeneration. At most he admits the possibility of their being psorosperms; but this *questio vexata* still lacks scientific proof. Moreover there may be other species present, and coccidia should not invariably alone be kept in view.

He then gives the history of a case where the diagnosis wavered between hard chancre, syphilis, and epithelioma.

The growth was situate on the inner surface of the prepuce, bordering on the sulcus coronarius; it was 3 to 4 cm. long and 1½ cm. broad, the base indurated and the surface slightly eroded and covered with a scab. Several yellow pultaceous plugs were squeezed out, consisting of epithelial cells and debris arranged like the coats of an onion. In the right groin there was an enlarged gland. The little tumour was removed and the wound healed by first intention. A year and a half later the patient was seen again, but no sign of malignant disease or of syphilis was present.

Macroscopically, a section of the growth showed an increase in depth (about twice the normal) of the epidermis and of its interpapillary portions which were pyriform, and their contents, so to say, forming the yellow plugs above mentioned.

Microscopically, the epithelial cells, especially those occupying the interpapillary region, were considerably altered in shape, and occupied by structures which no doubt would be termed psorosperms. Neisser, indeed, inclines to this view from the clinical features of the case—its gradual growth and the absence of recurrence—and mentions Pospelow's case (*British Journal of Dermatology*, 1891, p. 267) of coccidosis on the prepuce of a man, æt. 55, with a similar history.

He then reviews the cases of psorospermosis hitherto published. Darier's case of psorospermosis follicularis would formerly have been regarded as a form of icthyosis or of follicular keratosis.

Some authors who have seen similar cases to Darier's support the psorosperm nature of the disease (Besnier, Bulkley, White, &c.,), others (Buzzi and Weiss) leave it an open question, and others, *e.g.* Boeck, deny it *in toto.*

Certain clinical features against the parasitic nature of the disease should be borne in mind. The want of proof of its contagiousness among those living together and under similar conditions, *e.g.* parents, and the few cases where more than one member of a family has been attended, could be quite well explained by considering the disease as an inherited keratosis (form of icthyosis), especially by the opponents of the psorosperm theory.

Neisser passes on next to the ætiology of Paget's disease of the nipple, and distinguishes three points:—(1) its clinical course and intractability to treatment; (2) the constant presence of coccidia (or structures so called); (3) and the great abundance of these coccidia. He at once admits the existence of nuclear unicellular structures lying close to the nucleus of the epithelial cell (host); on the other hand, neither by form, size, nor staining reaction can these structures be proved *not* to be epithelial cells abnormally enclosed within others. Furthermore he draws attention to the almost constant localization of this affection to the female breast, and its rarity in man (Crocker has reported a case of the disease in the scrotum; Tarnowski and Pick, two on the penis; and Neisser one of the anterior axillary fold), which on the parasitic theory is difficult to explain.

The relation between Paget's disease and carcinoma would lead us to expect to discover psorosperms in the secondary deposits of the carcinoma. Neisser expressly states he has in vain looked for coccidia or similar bodies in the affected lymph-glands, and questions whether the structures are to be found in the cells of the epithelial down-growths forming the carcinoma as Darier and Wickham state.

Again, the frequently late appearance of carcinoma is against the theory of coccidial causation.

In reply, the followers of the psorosperm theory of carcinoma urge that the latter is an indirect consequence of psorosperms, other conditions, unknown as yet, being necessary to produce the epithelial down-growth; moreover, psorosperms exist only in superficial cells.

Neisser has observed three cases of Paget's disease. One especially is remarkable. When first it came under his observation the area was the size of half-a-crown; during the last ten years almost the whole of the skin anteriorly, laterally of thorax abdomen, and partially of the back is now implicated, treatment having been futile. Finally Neisser adduces reasons for his theory of regarding molluscum contagiosum as due to psorosperms.

At the outset he states that the structures he looks upon as coccidia in this disease are devoid of a membrame, and that the nucleus is not distinct. On the other hand these may not be coccidia but another species of psorospermia. Further the development of these unicellular organisms in cells rapidly undergoing cornification may be arrested or modified, and consequently a comparison between the behaviour of parasites in horny cells and those living freely or in succulent intestinal epithelium is scarcely admissible as evidence against the psorosperm nature of molluscum contagiosum.

Again, the fact that Török and Tommasoli have described a tough membrane enveloping the epithelial cells of the molluscum corpuscle is no proof against the presence of psorosperms or against the theory that these organisms may not have even produced it.

The general features of molluscum contagiosum—its contagiousness, inoculability, and the fact that the epithelial cells alone take part in the formation of the growths without any secondary implication of connective tissue—are more in accord with the psorosperm theory than with any other.

In the discussion that followed,—

Dr. Touton of Wiesbaden supported Neisser's theory, and stated he had distinctly recognised similar structures of a granular nature with a well-marked nucleus, in the neighbourhood of the nucleus of epithelial cells forming a molluscum growth. He stated, as regards the immobility of these organisms, that gregarinæ cultivated in bouillon blood-serum showed no signs of movement, and that encysted organisms—undoubted gregarinæ—actually resisted the action of concentrated sulphuric acid. He pleaded for a further study of the life habits of gregarinæ in the lower animals (earth-worms, snails), and for a careful comparison instituted between them and the pathogenic (?) organisms found in man.

FREDK. H. BARENDT.

IS MOLLUSCUM CONTAGIOSUM CONTAGIOUS? Prof. PICK, of Prague. (*Transactions of the German Dermatological Society*; Congress, III., held in Breslau.)

Prof. Pick alluded to his previous attempts to communicate this disease, and the general scepticism towards Retzius's and others' success in clinically proving it to be contagious. This time he was able to answer, himself, the question affirmatively, by the following clinical experiments.

The patient from whom he obtained the molluscum material had the eruption confined to his eyebrows, upper and lower eyelids; there was no other skin eruption. Some of the little nodules showed an umbilication with a little aperture, out of which a creamy substance could be squeezed. His subjects were a girl, æt. 9, suffering from lupus; and a boy, æt. 11, with prurigo (Hebra). The site chosen was the skin over Scarpa's triangle; this was perfectly free from any eruption. The regions were thoroughly asepticized, and twelve inoculations *in toto* were made just within the epidermis. The sites were ringed with nitrate of silver. For two months no change could be detected. About the tenth week, by means of a lens, the first sign of reaction was noticed in the girl, and a week after it was plainly visible to the naked eye; with the lens it was a miniature molluscum growth with a little umbilicated orifice. Similar changes were noticed in the boy a little later. The contents of these showed the typical molluscum corpuscles under the microscope. At the end of another week (twelve weeks after inoculation), the little tumours were excised. Microscopically they agreed completely with those from the donor's eyelids, the neoplasms took their origin in the interpapillary epidermis and there the molluscum corpuscles were found. Nine of the twelve inoculations succeeded. Pick sums up thus:—

(1) The contagiousness of the secretion of molluscum tumours is conclusively proved.

(2) The period of incubation lasts over two months.

(3) Three to four months are necessary for their complete evolution.

He ascribes his success this time to improved methods of inoculation; but refrains from expressing an opinion upon the nature of the *materies morbi.*

In the discussion that followed, the majority of speakers agreed with Prof. Pick, and related cases substantiating the contagiousness of molluscum contagiosum.

Prof. Kaposi made some remarks showing that in many cases contagiousness could scarcely be proved to exist. As regards the psorosperm theory, he confessed he was unable to come to any definite conclusion, and in Darier's preparations, which he saw in Paris, he failed to recognize the structures as psorosperms. In fact, in spite of diligent research, he has not yet succeeded in diagnosing gregarinæ in human beings, although he did not deny the possibility of their presence.

FRANK H. BARENDT.

THERAPEUTIC NOTES.

FURTHER OBSERVATIONS ON THE TREATMENT OF ALOPECIA BY IODIZED COLLODION.

Dr. E. Chatelain, Paris. (*Maladies Cutanées*, Vol. III., 1891, p. 605.)

The thirty-four cases of alopecia which M. Chatelain treated are arranged by him in three series:—Series 1. Fifteen cases unsystematically treated; Series 2. Eight cases systematically treated with incomplete cure; Series 3. Eleven cases systematically treated with complete cure.

His paper consists mainly of an account of Series 3, on which alone he wishes to base his claims for the efficiency of iodized collodion as a remedy for alopecia.

These eleven cases varied in intensity, in age, sex, and personal condition of the patient. The microbe (for M. Chatelain is a firm believer in the microbic origin of alopecia) shows no tendency to confine itself to one set of conditions. Males and females were attacked, but the former more frequently, as well as children and adults; the majority of cases occurred between twenty and forty years of age. Out of the total number of thirty-four cases twenty-four were affected with alopecia of the scalp. Most of them were of some months' duration.

The treatment of the eleven cases on which he bases his results was made as uniform as possible. It consisted in the periodic application of iodized collodion (1 : 30) to the patches of alopecia, and of some antiseptic to the rest of the scalp as a prophylactic. The iodized collodion provokes a sensation of burning, smarting or itching, which soon passes off. It may, however, produce a dermatitis, when the treatment should be suspended. The collodion pellicle separates spontaneously in a few days. If removed forcibly, it epilates the patch, and so stimulates the *papillæ pilorum*. When the subjacent hair is growing healthily it is better to aid the separation by a fine pair of scissors. The average duration of treatment of these eleven cases was 54·9 days. The shortest was thirteen days, the subject of which was a man thirty-one years of age, who has suffered from alopecia for eighteen months. As to the frequency of application of his iodized collodion the practitioner must be guided by circumstances; once every four or five days would seem sufficient as a rule.

H. Leslie Roberts.

CURE OF RODENT ULCER OF THE CHEEK BY PYOKTANIN.

Dr. von Sehlen, Hanover. (*Maladies Cutanées*, Vol. III., 1891, p. 507, and *Monatshefte f. prakt. Derm.*, XII., 1891, p. 173.)

A case of cancerous ulceration of the face cured by pyoktanin was shown to the Medical Society of Hanover on the 29th April, 1891. The patient was a man, æt. seventy, suffering from an ulcerating tumour the size of a sixpence on the right cheek. It was hard and bossy, and extended almost to the bone, but was not adherent to it. The lymphatic glands of the neck were not enlarged The general condition of the patient was good.

The diagnosis of carcinoma was confirmed by the microscope.

Resorcin treatment was first employed, plasters incorporating that drug being used during the day, and compresses (2—5%) during the night. After several weeks there was no tendency to cure.

Next, a solution was applied consisting of 8% resorcin, ½% salicylic acid, and glycerine 10%. The surface of the tumour diminished in fourteen days almost a millimetre in each direction under this treatment.

To hasten the cure equal parts of resorcin powder and salol were dusted on. This was very painful and had the effect of increasing the ulceration; it was therefore abandoned. Pyoktanin was next chosen. It was injected into the tumour, and also the pure substance itself applied externally. The treatment was excessively painful at first. The pain was relieved by compresses of a solution of cocain and antipyrin, and covering with ichthyol plaster and zinc paste In renewing the dressing the surface was dusted with a mixture of iodoform powder and boracic acid. After five days the secretion from the rodent ulcer had considerably diminished. The flattened tumour measured 2·8; 1·8; 1·8 centimetres. The floor of the ulcer was clean and of a pronounced violet colour. The dressing was renewed twice weekly, and latterly once a week.

In a month the ulcer was reduced to 0·8; 0·5; 0·6 centimetres, and the hardness of the tumour had disappeared. At the time of presenting him to the Medical Society the original affection was reduced to a faintly coloured stain separated from the healthy skin by a slightly elevated border. The microscopical examination of the portion of tumour excised showed it to be an "epithelioma of scirrhous character."

H. Leslie Roberts.

A THERAPEUTIC NOTE ON ALOPECIA AREATA.

Dr. L. Duncan Bulkley calls attention to a method of treatment which he has found, after prolonged experience, to be very useful in alopecia areata of the scalp. He dips a small swab in a 95 per cent solution of *carbolic acid*, and then brushes the affected area over lightly, and finally rubs the application in firmly. In treating small separate spots, the peripheral zone is also rubbed. He seldom applies it to more than two or three square inches at a sitting. The application is a little painful at first. The remedy whitens and shrivels the skin, sets up a little inflammation and desquamation. Sloughing has not been observed. Two weeks or more are allowed to elapse before a second application is made to any one spot. Dr. Bulkley, who believes in the neurotic, and not the parasitic, origin of the affection, claims that this treatment is cleanly, convenient, and effective, less troublesome and alarming to the patient than ordinary blistering, and more successful than any of the milder methods he has tried. (*Journ. Cut. and Gen. Urin. Dis.*—February, 1892.)

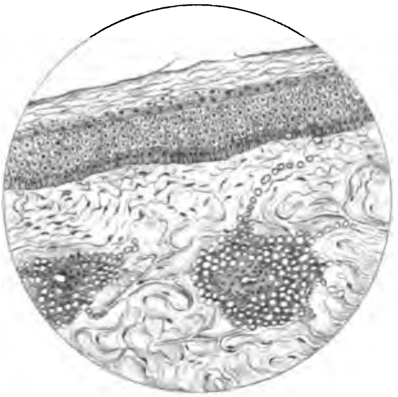

Fig. 1

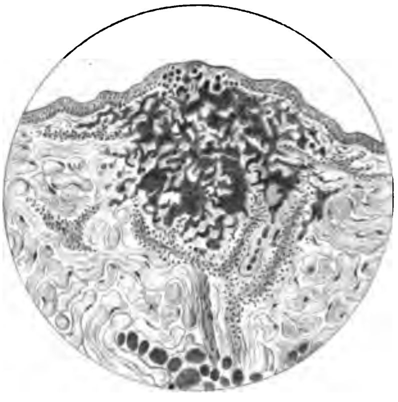

Fig. 2

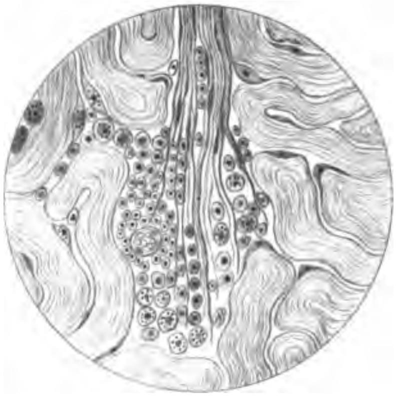

Fig. 3

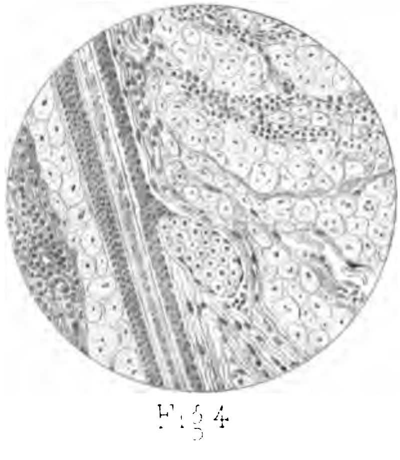

Fig. 4

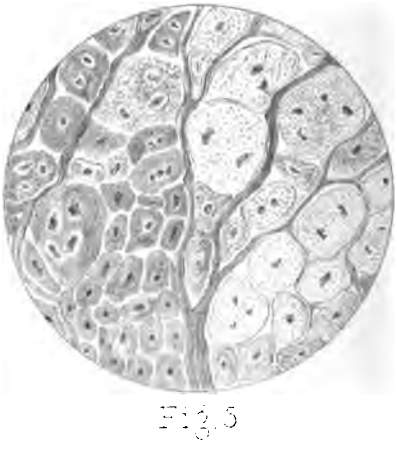

Fig. 5

[illegible] del. [illegible]

XANTHOMA DIABETICORUM.

DESCRIPTION OF PLATE.

FIG. 1.—Part of a section cut without previous hardening, stained in picro-carmine and mounted in glycerine. Two small blood-vessels are cut across, and are surrounded by highly refracting globules of fat. (Hartnack $\frac{1}{8}$″.)

FIG. 2.—Part of a section of a nodule, hardened in Flemming's fluid and stained in safranine. The fat is blackened, and lies in the interfascicular clefts. (Zeiss "A," ocul. 2.)

FIG. 3.—Part of a section prepared in the same way as that represented in fig. 2. It shows a small vessel and an arrector muscle with fibrous tissue. There is much small-cell infiltration. Some of the migratory and endothelial cells are enlarged and have fat-drops deposited around their nuclei. (Zeiss "F," ocul. 2.)

FIG. 4.—Part of a section hardened in Müller's fluid and double-stained in picro-carmine and logwood. It shows a hair-follicle and sebaceous gland, with many large cells. (Zeiss "D," ocul. 2.)

FIG. 5.—Part of a section prepared like that shown in fig. 4, under a higher power. (Leitz $\frac{1}{16}$″. Zeiss ocul. 2.)

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AUGUST, 1892.

XANTHOMA DIABETICORUM.

BY MALCOLM MORRIS AND J. JACKSON CLARKE.

History of the Recorded Cases, with a New Case.

BY MALCOLM MORRIS.

The occasional association of a peculiar eruption of the skin with diabetes mellitus is now generally recognized by dermatologists, although there is still some difference of opinion as to its true nosological position. The extreme rarity of the affection is sufficiently shown by the scantiness of the literature relating thereto, only twelve cases having been recorded during the last thirty years. To these I have now to add another, and as there has been a good deal of discussion on the subject since I published my first case in 1883, this seems to be a good opportunity of reviewing the whole question in the light of our present knowledge. For this purpose it will be convenient to have all the evidence before us, and I therefore preface the report of my new case with a summary of all those previously published.

1. In 1851 (*Guy's Hospital Reports*) Addison and Gull reported the case of a man aged 27, who, for about six months, had passed a large quantity of water, and on admission to the hospital presented all the ordinary signs of diabetes. At this time an eruption, at first apparently of a lichenous character, suddenly appeared on the arms. In ten days it had extended over the arms, legs and trunk, both

anteriorly and posteriorly, and also over the face and scalp. The papules, which are described as "shining" and "colourless," were most numerous on the outside and back of the forearms, and especially about the elbows and knees, where they were confluent. Along the inner side of the arms and thighs they were more sparingly present, and entirely absent from the flexures of the large joints. Some of them looked as if they were beginning to suppurate, but incision showed them to consist of firm tissue, which on pressure yielded only blood. The eruption remained almost stationary from the end of January to the beginning of March, when many of the tubercles began to subside, leaving no obvious change in the texture of the skin.

This typical example of what is now known as xanthoma diabeticorum was referred to by the late Hilton Fagge (*Path. Soc. Trans.*, 1868), and again by Jonathan Hutchinson in his paper on Xanthelasma, in the *Medico-Chirurgical Transactions* for 1871, as presenting characters different from those of ordinary xanthoma, and attention is called by both these authorities to the coincidence of the skin eruption with diabetes.

2. In 1866 Bristowe (*Path. Soc. Trans.*) recorded the case of a man aged 43, the subject of diabetes, who had an eruption limited to various parts of the hands, wrists, feet and ankles, elbows, knees and buttocks. The eruption consisted of tubercles of a dull reddish hue, the apices of which were often of a pale yellow colour; the little tumours were, however, solid, and contained no fluid. Microscopically they appeared to consist of a kind of dense fibrillated texture, studded more or less with oil globules. The parts affected were tender, and the patient complained of a disagreeable pricking sensation in them. Three months later many of the tubercles and patches had wholly disappeared, and the improvement was still in rapid progress. Bristowe, who first reported this case as one of keloid, afterwards expressed the opinion that the disease was a variety of xanthoma associated with diabetes. (*See* footnote to my paper: "A Case of So-called Xanthoma Tuberosum," in the *Transactions of the Pathological Soc. of London* for 1883.)

3. In 1880* a case observed by Hillairet was reported by Gendre

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* The date of this thesis is given as 1880 by Besnier, p. 329, but in the bibliography given on the preceding page he gives the date as *1879*.

("Etude Clinique et Historique sur le Xanthome," *Thèse de Paris*). The patient was a woman aged 38, the subject of glycosuria.

4. In 1883 I recorded (*Path. Soc. Trans.*) the case of a very stout florid man, aged 48, passing a large quantity of urine containing much sugar, who had an eruption which had suddenly appeared on the outer side of the thighs and the extensor surfaces of the arms. The eruption consisted of small pink round or oval papules, and tubercles varying in size from 1-30 to ¼ of an inch in diameter, mostly discrete but confluent on the hands and about the knees. A few were scattered over the front of the trunk, and there were some very minute ones between the fingers. Some papules were also visible on the tongue and mucous membrane of the mouth. There was no itching, but great tenderness of the skin of the hands when pressed, and soreness of the skin generally. The patient complained of numbness and soreness on the dorsum of both wrists and metacarpals, and also on the outer side of the thighs. These sensations radiated up to the buttocks and down to the calves, and were worse at night. Incision showed the nodules to be firm in texture; when squeezed they yielded only a little blood—no pus or oily matter. Microscopic examination of one of the small tumours showed little nodules in the substance of the corium gradually merging into it, the more recent nodules being composed of oval and fusiform cells lying in a slightly fibrillated connective tissue matrix. The central parts had a granular appearance, the outline of cells and fibres being faintly distinguishable. The papillary layer and the epidermis were unaffected. The developed nodules showed no sign of having originated in connection with sebaceous or sweat glands, hair follicles or blood vessels. No blood vessels could be seen in the growth. In the corium, but entirely separated from the nodules, could be seen networks of dilated thin-walled vessels, around which were collections of round and oval cells. The eruption in this case had been present for two years and a half before it began to subside. When the patient was last seen (five months later, *i.e.*, two years and eleven months after the development of the eruption) the skin affection had almost completely disappeared.

In describing this case I called attention to the marked likeness which it presented to those previously reported by Addison and Bristowe. The special features differentiating it from true xanthoma were, as I pointed out: (1) its association with diabetes; (2) the absence of the eruption from the eyelids; and (3) its gradual disappearance. The case was referred by the Pathological Society to a committee consisting of Jonathan Hutchinson, Radcliffe Crocker, and A. Sangster. Two members of the Committee (Crocker and Sangster) while agreeing that the cases reported by Addison, Bristowe, Hillairet and myself were all examples of one and the same disease, expressed "grave doubts" whether that disease was xanthoma multiplex, from which according to them it differed in the following points: (1) The sudden evolution and involution of the eruption; (2) The firmness and solidity of the lesions; (3) the absence in certain cases of yellow colour in the nodules, and its presence in others only on the top of the little tumours; (4) the total absence of patches or striæ; (5) the absence of jaundice and the presence of diabetes; (6) the situation of the lesions in many instances in the immediate neighbourhood of hair follicles; (7) the difference in the microscopic characters from those constantly seen in xanthoma.

In the opinion of the Committee the four cases formed a definite group presenting many of the features of lichen, and they accordingly suggested the name of "Lichen Diabeticus" for it. In a postscript to the report, Hutchinson, while "agreeing in the main" with his colleagues, separated himself from them with regard to the principal point in controversy, viz., the nosological category to which the disease belonged. He said he was still inclined to regard it as a near ally of xanthelasma, and expressed a preference for such a name as "xanthelasma of the diabetic." Having had an opportunity of seeing the patient a second time some months after he had been examined by the Committee, Hutchinson found on the left knee a group of spots, which on stretching the skin became distinctly yellow. On the other knee was a similar group, which did not show any yellow tint.

5. A fifth case was reported verbally to Chambard by Hillairet (*see* Kaposi, *Maladies de la Peau*, French translation by Besnier and Doyon, 2nd edition, Paris, 1891, t. ii., p. 329). The patient was a woman, the subject of rheumatism and glycosuria, who had a generalised xanthomatous eruption; this almost completely disappeared whenever she gave up late suppers and full-bodied wines.

6. Aubard of Lyons (Kaposi, French translation, *loc. cit.*) also told Chambard of a case resembling the one just mentioned.

7. In 1884 W. A. Hardaway published (*St. Louis Courier of Medicine*, October, 1884), "a case of multiple xanthoma, exhibiting the plane, tubercular and tuberose varieties of the disease." The patient was a German man-cook aged 44, the subject of glycosuria.

8. In 1888 Barlow recorded (*Brit. Journ. Derm.*, November, 1888), "a case of diabetes mellitus, in which skin lesions consisting of broad papules and tubercles (? lichen diabeticus) occurred resembling those described as xanthoma diabeticorum, but without pigmentation." The patient was a gentleman aged 26, who had been suffering for at least eighteen months from diabetes. He was extremely emaciated and cachetic, and was the subject of a peculiar eruption, which Barlow describes as follows: "In the skin of the abdominal walls, on the front and sides of the thorax, and also on the back, were situated a large number of broad flattened papules and tubercles. They were most abundant on each side of the sternum. The average size was that of a split pea, but there were some one-third of an inch in diameter. They were round, sharply circumscribed and very little raised above the surface of the skin; they were, in fact, like firm solid discs embedded in the skin proper, and free from attachment to deeper structures, so that they could be pinched up with the skin, but the skin could not be rolled over them. There were no dilated vessels round them, or any inflammatory sign whatever, and there was no central spot or vesicle over any that I saw. *The colour of the skin over the spots was quite unchanged.** There was no pain or irritation in connection with these lesions, but I regret that I did not examine carefully for anæsthesia." The patient informed Dr. Barlow that the spots had begun to appear about six months before it was discovered that he had diabetes. There was no trace of the eruption on the limbs or face, and the eyelids were also free from it.

9. In 1889 Cavafy (*Brit. Journ. Derm.*, January, 1889,) published the case of a letter-sorter aged 45, who came under his notice in January, 1885. Some years before the patient had "caught cold" from bathing in a river in February; he became very ill, his legs swelled, and hè was told by his doctor that he had diabetes. Two years after the commencement of his illness, small symmetrically placed but somewhat irregular yellowish raised spots appeared

* Italics in the original.

on the backs of his hands and forearms, and subsequently on the toes, elbows, knees and ankles. The lesions itched much on their first appearance, and were afterwards rather tender on pressure; the patient described them as slowly growing from the size of a pin's head to that of a hemp seed or split pea. He had never been quite free from them since their first appearance, but he said they always diminished considerably during his holidays. The lesions were all seated in the true skin, and were very hard to the touch; in colour the apex was of a pale orange buff, gradually passing to dull red as the base was reached, and they were seated with broad bases on the skin of the same dull red tint. The face, scalp, trunk, buttocks, palms and soles were quite free from the eruption. The urine was of low specific gravity, and contained albumen, but no sugar. Slight but unmistakable pitting could be produced by firm pressure behind the malleoli and over the lower end of the tibia. The patient remained under Dr. Cavafy's observation for two months, during which time there was no appreciable difference in the eruption. He had, however, as was subsequently learnt, to be pensioned off in October, 1887, as the papules and tubercles became so inflamed and painful that he could not perform his duties. Cavafy thinks it clear that the man suffered from nephritis, the evidence of diabetes being more than doubtful. He agrees with Barlow that the affection is not a variety of xanthoma, and prefers the term "lichen diabeticus."

10. In 1886 Colcott Fox (*Westminster Hospital Reports*, Vol. iii.) recorded the case of a man cook who had an eruption of xanthomatous papules on and about the bend of the elbows, on the elbows, the anterior aspects of the forearms, the borders of the axillæ, both aspects of the knee-joints, the back of the neck, the front of the thighs and the palms. The eruption had appeared three months before he came under observation, and the yellow solid papules were mostly set in a pink congestive areola. The man drank beer and claret freely at his work; he had catarrhal jaundice seventeen years, and rheumatism eighteen months, before the appearance of the eruption, and he was the subject of glycosuria. Under diet and acetate potash the eruption disappeared in about two months.

11. In 1889 Besnier (*Annales de Derm. et Syph.*, 1889, No. V.; *Op. cit.*, *French Trans.*, Vol. ii., p. 330,) showed at a meeting of the staff of the St. Louis Hospital on March 7th, 1889, a case which he

considers typical. The patient was a master butcher, aged forty-two, very stout, and subject to profuse sweating. Six years previously the eruption appeared for the first time on the hands, wrists and palms. Sugar was found at that time in the urine to the amount of 72 in 1,000, a proof that the glycosuria was even then of old standing. Since then it had varied between 72 and 78 parts in 1,000. For five years the eruption always appeared about July, gradually becoming worse for a time, and then slowly faded till about November, when it disappeared, leaving no trace behind. In November, 1888, however, it did not disappear completely, and immediately broke out anew, the eruption coming out in some places as it died away in others. Coincidently with this the patient's strength began distinctly to fail, though he did not lose flesh to any great extent. At the time the patient was shown he had a generalized symmetrical eruption of yellowish-red Xanthomatous papules, many of them composite; they were most numerous on the elbows, whence they extended down to the forearm, and up the arm (anterior surface), and over the back of the wrists. There were a few scattered nodules on the back of the neck, and a small group of them behind the axilla on both sides. There were also a few on the palms of the hands. On each knee was a confluent mass of nodules, and the eruption was present on the upper part of the thighs, on the loins, and buttocks, and in the fold of the nates; there were a few discrete papules in the popliteal regions. There were a few also on the dorsum of each foot, and one or two on the soles. None were visible on the abdomen, face, scalp, conjunctiva or mucous membrane of the mouth. The patient complained of a burning sensation and tenderness, particularly in the extremities; there was no itching. His chief complaint was, however, of painful sensations of various kinds, of the nature of electric shocks, generally coming on at night.

12. In 1889 another case was shown to the New York Dermatological Society, by A. R. Robinson; it was afterwards published in the *British Journal of Dermatology*, April, 1891, and figured in the *Atlas of Rare Skin Diseases*, 1890. The patient was a man aged thirty-one, tall, well-built, but somewhat too fat. He had never had jaundice, and except for excessive thirst felt absolutely well. He was however found to be the subject of diabetes mellitus. In January, 1889, an eruption first appeared in the nates and loins, the "efflorescences"

gradually increasing in number and affecting the dorsal aspect of the forearms, especially around the elbows, the extensor surfaces of the thighs, the calves and shins, and to a less extent all other parts of the cutaneous surface except the scalp. Between the root of the nose and the inner end of the left eyebrow there was a single papular lesion of the size of a pin's head, and there were a few indistinct lesions on the palms and soles. Four months after the commencement of the disease there existed several hundreds of papules, chiefly situated on the nates and lumbar region, on the dorsal surface of the upper arm, on the anterior surface of the legs, and on the calves. Several lesions were also scattered over the rest of the trunk and the extremities. The commencement of the eruption was preceded by no subjective symptoms, but when completely developed, touching the skin caused a burning sensation which lasted for several hours. There was sometimes considerable itching. In April, 1890, the urine contained five per cent. of sugar. The patient was dieted, and took arsenic, and in the course of three weeks the eruption began to fade, disappearing finally in February, 1891. Robinson gives a full account of the histology of the disease, which agrees in all essential points with the microscopic appearances found in the case which I am about to relate.

13. The patient (who was sent to me on November 4th, 1891, by Dr. Facey of Maldon) is a master builder, who completed his twenty-seventh year in May, 1891. Both parents were living, the father, aged sixty-two, having been perfectly healthy till at sixty-one he had an attack of rheumatic gout; the mother, aged sixty, very stout and diabetic, but otherwise apparently in good health. The patient had two brothers and five sisters all living; all of them were very stout, but in good health. The man himself had always been stout, and never remembered having had any illness. Seven years before coming under my notice his weight was 15 st. 7 lbs., and since that time it had always been above 15 st. He had no jaundice or headache, and in October, 1890, he was examined on behalf of an insurance office and passed as a first-class life.

The first appearance of the present disease was towards the end of July, 1891, when about a dozen small papules were observed on both elbows. The extensor surfaces of all the limbs soon became thickly covered with similar lesions. A few papules were also situated on the neck, but at this time none were visible on the trunk. Arsenic was prescribed, and by the middle of August all the papules had disappeared, with the exception of some two dozen about the elbows and knees. About the middle of September an extensive recurrence of the rash took place, and at the beginning of November the patient again consulted Dr. Facey, to whom I am indebted for valuable notes of the previous history and subsequent progress of the case. When I saw him on November 4th the eruption was abundantly developed on the extensor surfaces of the limbs and on the dorsal aspect of the trunk, and had begun to spread to the flexor surfaces. On the back and sides of the neck, where the skin is usually covered by the collar and shirt, there was a thick eruption of papules. The part of the neck ordinarily exposed to the air, together with the face and head, were quite free. There were no papules on the tongue or mucous membrane of the mouth. The eruption was particularly abundant in the groins and on the lower part of the abdomen. The patient complained of increasing itching, and said the occurrence of this in individual papules usually heralded their disappearance. The eruption consisted of papules and tubercles of various sizes, for the most part discrete. They gradually became red in colour, and ultimately yellow in the centre, with a red periphery.

When examined at the beginning of November the urine had a specific gravity of 1035, and the proportion of sugar was 12·9 grains in the ounce. Towards the end of the same month the quantity of urine passed in the twenty-four hours had fallen from 140 to 100 ounces, and the eruption was subsiding, especially on the thighs. At the beginning of December the yellow colour was almost replaced by purple; the proportion of sugar was then 11·1 grs. per ounce. By the middle of the month the eruption had almost disappeared. In a note dated June 3rd, 1892, Dr. Facey informs me that the patient is free from eruption, and says he is quite well. He is much thinner. No urine could be obtained for examination. It should be added that the man took codeia from the beginning of November, 1891, to the end of March, 1892.

HISTOLOGICAL EXAMINATION.

BY J. JACKSON CLARKE.

A small portion of skin was, with the permission of the patient, excised from the outer side of the left forearm. It contained five papules, some of recent formation, and of the size of millet seed; others, older and larger, and composed of several confluent papules. The latter showed a pale yellow centre, and on cutting through one of them this yellow colour was seen to belong to a firm nodule extending from the epidermis to the deepest part of the corium, and having a rounded shape. Sections of such a ripe papule cut fresh, and mounted either unstained or stained in picro-carmine, presented the same appearance as ordinary xanthoma palpebrarum similarly prepared. The small veins and capillaries of the affected part of the corium were surrounded by small round cells, and formed the centres of collections of bright globules and granules. Such a collection around one of the vessels of the superficial plexus is represented in Fig. 1. Several globules had apparently travelled along an interfascicular space to the epidermis, and two of them were placed between the deepest layer of the epithelial cells. It would seem that in this affection the papillary layer of the cutis is more affected than it is in ordinary xanthoma. Apart from this, the epidermis was normal in appearance, as were also the minute branches of nerve seen entering it in sections treated with gold-chloride. The nature of the bright globules was made clear by the examination of sections of a piece of a nodule hardened in Flemming's fluid. They presented appearances similar to those shown in Fig. 2. Above a vascular fork of the deep plexus is an area marked by blackened masses which follow accurately the inter-fascicular clefts, and which extend to and into the epidermis, which is pushed forwards with a somewhat abrupt convexity. The track of the bloodvessels below, and around the nodule is marked by dense small-cell infiltration. Some of the smaller vessels lose themselves in the larger fatty masses. Fat cells of the subcutaneous tissue are in the field below. The superficial part of this nodule examined with a higher power exhibited the passage of fat between the epidermal cells, some of which were greatly drawn out, while others were in a state of disintegration. The older nodules showed this passage of fat from the papillary layer of the corium into the epidermis, and since the latter was seen by the naked eye to be broken over the oldest and obsolescent lesions there can be no doubt that in this way there had been on a microscopic scale an elimination of fat. Free fat granules were also present in the lymph spaces. In some of the lesions the deeper layers of the epidermis were seen to be flattened out by the upward pressure to the fatty tissue. Over the smaller (younger) nodules the epidermis was normal. In a part of another section similarly prepared and stained in safranine occurred the structures represented in Fig. 3. A capillary blood-vessel situated close to an arrector muscle was filled with blood and surrounded by a dense zone of small cells.

Similar cells lay between the fibres of the muscle, which was extensively disorganised. Some of these free cells were distinctly enlarged, and granules blackened by osmic acid had been deposited around their nuclei. The neighbouring interfascicular clefts were all more or less choked with cells; some of the latter being of large size and entirely blackened. I could see no mitotic figures in any of the connective tissue cells in this or in any of the sections; some of these cells and some of the endothelial cells lining the lymph spaces were enlarged, and had granules of fat around the nuclei. The sections showed that four of the five nodules involved hair-follicles; the remaining one, however, was placed around the duct of a sweat gland. The general structure of the tissue was best shown by sections stained with picro-carmine and logwood after hardening in Müller's fluid. Such a section is represented in fig. 4. Towards the left and lower part of the field is the peripheral part of a hair follicle and sebaceous gland, having a normal appearance. To the left of the follicle are some large clear cells and two capillaries surrounded by small round cells densely packed. The remainder of the field showed similar tissues, and amongst the fibro-cellular tissue the central parts of some of the fibrous bundles were isolated, and apparently undergoing absorption without being completely infiltrated by migratory or other cells. In a section (fig. 5.) stained with picro-carmine, the large cells showed a greater variety of form and of internal structure. In some, the cell-protoplasm took the stain; in others it did not stain, and presented only the faintest indication of a reticular structure by fine and sparse granules, thus resembling the clear cells of fig. 4, which are exactly like the large cells found in atheromatous arteries. Many of the cells in this specimen were multi-nuclear. Remains of the fibrous tissue and elastic fibres were seen supporting the cells. When the large cells were liberated by teasing in dilute glycerine they assumed globular outlines. Some were granular throughout, while others were filled with fat globules surrounded by granules. After a time crystals formed in many of these cells, and when this was the case there were a few small globules lying on the under side of the hollow interior of the cell which had a distinct double contour. The nuclei (whether one or many) of the large cells were placed in the cell-protoplasm, and were not thrust aside to the periphery as in ordinary fat cells.

The elastic tissue is omitted from most of the drawings; it presented no changes. Hardening in alcohol was found to leave only slight traces of the large fatty cells. I was not able to find any pigment granules in any of the sections.

Cover-glass preparations and sections, some cut fresh, others after hardening in alcohol, were stained in various ways: by gentian violet, by alkaline methelene blue, by Gram's and by the Ziel-Nielsen method. None of the preparations showed micro-organisms, numerous large plasma-cells were present. Portions of a tubercle were taken with the usual precautions and placed in cultivating media. After six weeks' incubation at 35° C. the tubes of agar, glycerine agar and blood serum, and the gelatine tubes at room-temperature were free from growth. Later on, moulds grew in some of the tubes.

The foregoing description is that of an inflammatory affection, and is opposed to the original views of Virchow, Waldeyer, &c., and is in accord with the view of xanthoma expressed by Pye-Smith (Fagge's "Text Book of Medicine," second edition). "Xanthelasma is essentially a chronic deep Dermatitis with early fatty degeneration, the yellow colour depending upon the presence of innumerable fatty granules in the tissue." In the same place Pye-Smith says: "In the nodules there is also present a dense fibrous tissue and even in the plane variety a few ill-formed cells have been detected. The minute structure of xanthelasma is thus identical with that of atheroma of an artery." This latter part of the quotation is true as far as the likeness is concerned, but implies an error of omission, for both in xanthoma and in atheroma in sections suitably prepared are found the large cells called xanthoma cells by De Vincentiis ("Endothelioma Lipomatodes," *Movimento Medico-Chirurg.*, 1873).

They are also in accord with the account of xanthoma given by Chambard (*Archives de Physiologie*, 1879, p. 691), C. Touton (*Vierteljarhsch für Dermat. und Syph.*, 1885, p. 163). Touton's conclusion that xanthoma belongs to the same category as cutaneous moles is apparently supported by a case published by Köbner in the *Vierteljahrsch für Dermat. und Syph.*, 1888, pp. 393–409, entitled "Xanthoma Multiplex Entwichelt aus Nœvis Vasculo-Pigmentosis." The patient was a man aged twenty-seven. The pigmented spots began to appear at the age of two, and became the seat of xanthoma at the age of twelve. A criticism of this case is beyond the scope of the present paper, as it would necessitate a full consideration of the various kinds of nœvi. It may, however, be stated that the mode of evolution of xanthoma diabeticorum (and probably of all forms of xanthoma) is distinctly of the nature of inflammation, and the large endothelial and giant cells are of common occurrence in chronic inflammations; and, finally, the fatty infiltration of these large cells is not peculiar to xanthoma, but is plainly seen in sections of atheromatous arteries properly hardened, whilst ordinary moles have a structure exactly like alveolar sarcoma, and, as far as is known, are not of an imflammatory nature. The results of my examination of this case are also similar to those published by A. R. Robinson (*Brit. Journ. of Dermat.*, April, 1891) in another case of xanthoma diabeticorum. From the characters of the sections examined in this case I should, however, ascribe the greater number of the large cells to the white corpuscles and not to the proliferation of connective-tissue cells as is done by Robinson in his case of xanthoma diabeticorum, and by Chambard, Touton, and others in ordinary xanthoma. The negative issue of a search for micro-organisms agrees with the experience of the majority of observers, but is in opposition to the result of an examination of a case of xanthoma recorded by Balzer (*Revue de Méd.*, 1882, p. 398); this dermatologist, however, has explained the appearances he then interpreted as "cocci and short rods" in another manner. In an article published in the *Archives de Physiol.*, 1884, p. 65, he accounts for them by the presence in a xanthoma-like tumour of an irregular fragmentation and deformity of the elastic fibres unaccompanied by any marked accumulation of cells. That such a condition of the elastic tissue exists in a well-defined and xanthoma-like affection of the skin is true, but it has not been found in ordinary xanthoma or in xanthoma diabeticorum.

I would add that portions of tissue hardened in Müller's fluid and stained with picro-carmine and logwood and those hardened in Flemming's fluid and spirit and stained in safranine gave the best results.

CONCLUSIONS.

BY MALCOLM MORRIS AND J. JACKSON CLARKE.

Both the clinical phenomena and the microscopic appearances in the case just related seem to us to prove its pathological identity with the others of which abstracts have been given above, and to confirm in all important points the opinions as to the nosological relationship of the disease which was expressed by one of us in 1883. There can, we think, be no doubt that the affection is fundamentally of the same nature as the other conditions which have been grouped together under the general name of "xanthoma" excluding the xanthoma of Balzer, which consists of a localized hypertrophy and degeneration of the elastic tissue.

The propriety of classifying the affection under consideration with xanthoma has been questioned on the ground of certain clinical and anatomical points of difference. These may be summed up as follows: —1. While ordinary xanthoma (planum and multiplex) is slow in evolution and generally permanent, xanthoma diabeticorum appears suddenly and subsides almost as suddenly. 2. While xanthoma planum almost invariably begins on the eyelids and is usually confined to them, and xanthoma multiplex chiefly affects the flexor and extensor surfaces of the limbs, the eyelids, and the palms, the diabetic variety for the most part attacks the neck, trunk, and extensor surfaces of the limbs. 3. While jaundice is a very frequent accompaniment of ordinary xanthoma in adults and diabetes mellitus has never been recorded as occurring in association with it, the reverse is the case as regards xanthoma diabeticorum, in which sugar in the urine is a constant feature and jaundice an unknown complication.

It appears to us, however, that these points of difference though sufficient to establish a distinction of species are inadequate to constitute a distinction of genus. While proving that xanthoma diabeticorum is a variety of xanthoma they do not justify us in separating it nosologically from the group of skin lesions with which it has the closest affinity by naked eye appearance and microscopic structure.

To take the points *seriatim*. Cases have been recorded (by W. F. Smith, Hilton, Fagge, Kaposi, and others) in which xanthoma multiplex has undergone spontaneous involution. Again, with reference to the distribution of the lesions, no variety of xanthoma has a territory exclusively its own. Xanthoma diabeticorum has not, as a matter of fact, yet been met with, on the eyelids; but it would be rash on the strength of a dozen cases to assert that it never occurs in that situation. With that exception it has been found on every part of the body where the other varieties are seen, and it can hardly be seriously argued that the fact (if further experience proves it to be a fact), of this particular variety of the affection avoiding the eyelid is sufficient to exclude it from the category of xanthoma. Lastly the substitution of diabetes for jaundice (or rather for the hepatic diseases of which these symptoms are the expression) as a constitutional factor points to a probable difference of cause rather than a difference of morbid process and resulting lesion.

On the other hand, the points of resemblance between xanthoma diabeticorum, xanthoma planum, and xanthoma multiplex seem to us clearly to establish the fact that they are members of the same group. Anatomically the three varieties are practically identical, discrepancies in the recorded appearances being fully accounted for by variations in the rate of the inflammatory process and differences in the methods of hardening and staining employed.

That the so-called xanthoma cells are abundantly present in the lesions of the affection now under consideration is shown by Clarke's report, which, on this point and all others of any importance, confirms those of Darier (quoted by Besnier, *French Trans. of Kaposi*, Vol. II., p. 335) and A. R. Robinson (*loc. cit.*). The resemblance in the microscopic appearances in the two cases (ordinary and diabetic xanthoma) examined by Darier is so striking that the identity of the pathological process in the two cases is evident. A xanthoma nodule closely resembles a patch of atheroma; the whole process is inflammatory, the infiltration of the affected tissue with the characteristic cells and the accumulation of the latter around the bloodvessels, and fatty infiltration and degeneration of the cells of the central part of the nodule. It is this which gives the characteristic deep-seated yellowish colour to the lesions, and hence it is clear that the colour is not an essential feature of the affection, as in certain stages of the process it may be altogether absent.

From what has been said it is obvious that the affection cannot with propriety be classified as a form of lichen, as was done by some of the Committee of the Pathological Society, and afterwards by Barlow and Cavafy. The views as to the xanthomatous nature of the disease expressed by Malcolm Morris in 1883 were, as already said, promptly accepted by Hutchinson and Bristowe. Since then they have found a thoroughgoing supporter in Robinson, and more recently Besnier has thrown the great weight of his authority into the scale on the same side. Lastly, Crocker himself seems to some extent to have abandoned the attitude of "grave doubt" which he thought it right to take up in the report of the Committee of the Pathological Society already referred to (see "Diseases of the Skin," London, 1888, p. 384), and while insisting on the points of difference between the diabetic and other forms of xanthoma he accepts the name "xanthoma diabeticorum."

On the whole, while fully recognising the danger of basing a classification on a mere handful of cases we think it may be taken as proved that there is an affection of the skin clinically and anatomically closely allied to xanthoma planum and xanthoma multiplex, which is associated with and probably dependent on the presence of an excessive amount of sugar in the blood. Of the degree of closeness of this relationship, or of the manner in which the diabetes produces the skin lesions nothing is at present known.

XANTHOMA DIABETICORUM.

BY H. RADCLIFFE CROCKER.

There being only a dozen cases of xanthoma diabeticorum on record, an additional case is still of interest. As Mr. Malcolm Morris is also relating another case in the present number of this Journal, and has gone fully into the history of the affection with which his name is honourably associated, it would be superfluous on my part to do more than relate the case, to describe the histological details according to my investigations, and to make such remarks as appear to me to arise from my observations.

Clinical History.—The patient, æt. 30, was sent to me for diagnosis by Dr. Duncan Greig on February 25th, 1891. The eruption dated from the previous Christmas. It began on the buttocks, next appeared on the front of the arm, and then on the elbows and knees, and the lesions had since gradually increased in number. On the buttocks, where the eruption was most developed, the papules varied from a millet-seed to a pea in size, and had a slightly reddish tinge, unless the skin was stretched, when a yellow colour came out. There were no telangiectases on the papules, and there was not a distinctly red base with a yellow apex, such as is often seen in these cases. On the elbows, the whole papule was more distinctly yellow than on the buttocks, but was of a much paler shade than that usual in ordinary xanthoma. The patient was a well-nourished, but not obese, healthy-looking man. Recognising, however, that the eruption was that of xanthoma diabeticorum, I closely questioned him, and he then admitted that for the last nine months he had noticed a difference in his health; that there was some lassitude, that he was more easily done up, and that his spirits were not so good as they used to be. On testing the urine, sugar was at once detected; and subsequent examination showed that he passed 3¼ pints of urine in the twenty-four hours, and that it contained 18 grains to the ounce. There was no albumen, and his other organs were sound. He was put on a modified diabetic diet, and the sugar rapidly disappeared. On April 4th there was only a faint trace of sugar, and the nodules on the buttocks were less prominent, and his general health had improved.

He was kind enough to allow me to have a drawing made of the buttocks, and to excise a papule the size of a hempseed on the extensor aspect of the right fore-arm.

Histology.—The excised nodule was placed in a solution consisting of equal parts of alcohol and one-sixth per cent. of chromic acid in distilled water, a solution which answers well for most specimens of skin. The sections subsequently made, were overstained with hæmatoxylin, and the excess of colour washed out with a ten per cent. solution of acetic acid, a plan which I have found very successful for demonstrating the structure of ordinary xanthoma.

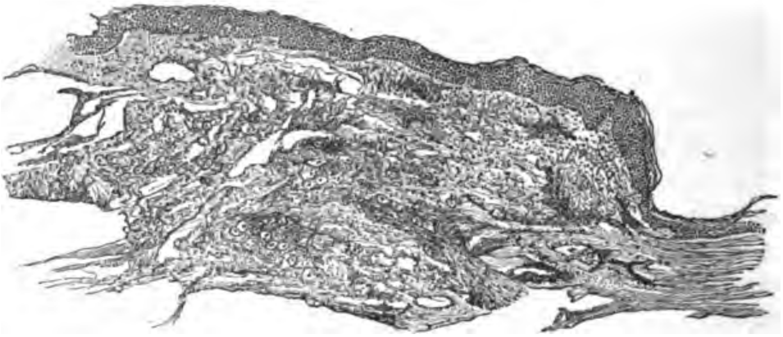


FIG. 1.—Xanthoma diabeticorum. General view, showing that the diseased portion extends from the rete Malpighii through the whole depth of the corium, and that it consists of a round cell infiltration with small groups of epithelioid cells scattered throughout. (× 1-in. Ross.)

Epidermis.—There was very slight thickening of the rete Malpighii, the lowest cells showing slight signs of proliferation; in other respects, this and the other layers of the epidermis appeared normal. The chief changes which produced the nodule affected the papillary layer, and the upper half of the deep layers of the corium, most marked immediately below the papillary plexus. With an ordinary lens the outline of the nodule could be seen to be fairly well defined below, pushing up the epidermis above, thus forming a lenticular mass in the papillary layer and upper half of the corium. Under the microscope, changes in and around the vessels beyond the mass showed that the process was extending. Within the lenticular area indicated, the chief part of the process was an infiltration of oval or spindle-shaped cells between the connective tissue bundles of the corium, breaking them up into smaller bundles ; naturally, therefore, the arrangement is chiefly in a horizontal direction, but as the infiltration is also most marked round the vessels, bands of these cells, which are evidently nearly all exudation-cells, also ran at irregular intervals in a more or less vertical direction.

Besides these exudation cells, careful examination showed that there were other epithelioid cells of various shapes and sizes, but for the most part oval, roundish, and a few angular from compression. They contained one, two or more nuclei, were arranged in small irregular loose groups, with a tendency to form lines of four or more horizontally or at various angles. The foci were small, few in number, and at different levels below the horizontal vessels of the papillary plexus, some being deep into the corium, but most in the upper part of the deep layer.

The arrangement of these epithelioid cells in some of the sections pointed to their being in some way connected with the blood-vessels or their lymphatic sheaths, but what the exact connection was, the limited amount of material at my disposal did not afford me the opportunity of determining. The coil glands below the nodule showed infiltration of leucocytes between the coils, and proliferation of the lining cells. The blood-vessels beyond the main mass were ensheathed in round cells for a considerable distance, and were notably dilated throughout the diseased area.

On comparing the anatomy of this and of an ordinary xanthoma planum from the eyelids, the difference was so obvious and striking as to seem at first sight due to a totally different process. In the first place the morbid condition as a whole is deeper in xanthoma planum. The cell masses are large, conspicuous, and very numerous, displacing and replacing the connective tissue fibres, which form thin walled loculi containing the densely arranged giant-cells of which the mass is almost entirely composed, while inflammatory phenomena such as exudation-cells are absent or very scanty.

Most of the cells, which are very conspicuous, are much larger and contain more nuclei than those of xanthoma diabeticorum, which require to be carefully looked for and focussed in order to detect their outline. The giant-cells, in short, are much more highly developed and numerous in planum.

When comparison is made with a nodule of xanthoma tuberosum of the same size as that of the xanthoma diabeticorum under consideration, the differences are less distinct. Here, as in xanthoma diabeticorum, the changes are more superficial, and form a similar circumscribed, well-defined mass. The infiltration-cells are more abundant, and the giant-cells less so than in xanthoma planum, while, on the other hand, the infiltration-cells are much less abundant and the giant-cells much more abundant than in xanthoma diabeticorum. The giant-cell structure constitutes the greater part of the morbid area, but the outlines of each are obscured by their close aggregation, and they form, therefore, more definite groups. None of the individual cells are so large as many of those of xanthoma planum. The increase of the rete is somewhat marked, and there is very slight downgrowth, which was not present in xanthoma diabeticorum.

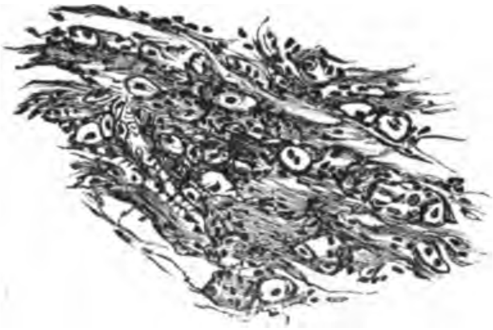


FIG. 2.—A small portion of fig. 1 more highly magnified to show the epithelioid cells, some of them multi-nucleated or giant cells. (× ¼-in. Ross.)

In spite of these differences, both the clinical and microscopical features point to the morbid changes being due to the same kind of process, but differing in degree.

At one end of the chain the advanced form of xanthoma planum, made up almost entirely of giant-cells, with scarcely any signs of inflammation, suggest a neoplasm, as, indeed, Touton considers it; while at the other end is xanthoma diabeticorum, with abundant evidence of inflammation, and only slight development of the characteristic cells. Xanthoma tuberosum, when in small nodules, with its moderate inflammatory signs, and, as compared with planum, moderate giant-cell development, forms the connecting link. The clinical course is in accordance with the histology. Involution, as far as I know, has never occurred in xanthoma planum of eyelids. It has occurred, but very rarely and very slowly, in xanthoma tuberosum; while involution is the rule, and that often very rapidly, in xanthoma diabeticorum.

Doubtless in larger lesions than the one examined the xanthoma-cells would be more abundant and crowded; indeed, Robinson has described such a growth, and says the surrounding tissue is infiltrated with these cells in proportion to the size of the nodule. I did not observe "the patches of degenerated disintegrated tissue" that he describes; perhaps this is a phenomenon indicative of commencing involution. My specimens did not show a hair-follicle as the centre of the process, but one of the sections showed a sweat-duct traversing the very centre of the papule. Probably, though it often is so, the lesion is not necessarily in connection with one of these appendages, though all the sweat-coils in my sections were involved more or less. Another minor difference between my observations and his is, that he

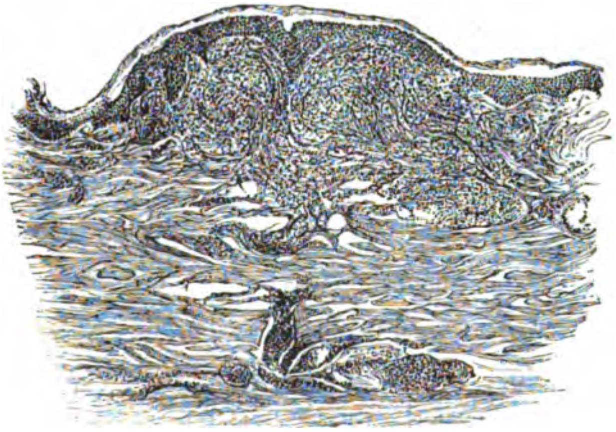


FIG. 3.—A small nodule of xanthoma tuberosum for comparison, showing the diseased area extending quite up to the rete, pushing it up; almost the whole area consisting of epithelioid cells. The lower portion of the corium is almost free from disease. (× 1-in. Ross.)

describes the process, as a whole, as lying somewhat deeper than the main portion was in my specimen. These slight differences are not of importance, and, on the whole, our observations agree fairly well; but he had the advantage of more material for his examination.

I must leave the reader to compare Clarke's observations on Malcolm Morris's case, as I have not read them, though I heard the description he gave at the Pathological Society.

There can, I think, be no question that the process is an inflammatory one, and it is only reasonable to infer that in spite of the neoplastic aspect of xanthoma planum in its highest development, it is also due to an inflammatory process, as Chambard long ago asserted and Touton disputed. While, therefore, it is interesting from the light it throws on the pathology of ordinary xanthoma, it is clinically important as a guide to, it may be, a wholly unsuspected glycosuria, and considerably widens our conception of the origin, course, and development of xanthoma as we had previously known it.

CURRENT LITERATURE.

MEDICATED SOAPS.

Dr. F. Buzzi, of Berlin (*Beitrag zur Würdigung der Medicamentösen Seifen-Ergänzsheft* 2, *Monatshefte f. prakt. Dermatologie*, 1891), subjects the whole subject of the treatment of skin diseases by medicated soaps, which has come so much to the front of late, to a close criticism. He objects to the admixture of drugs with hard soaps, whether overfatted or not, as they are now generally made. They are incapable of retaining volatile bodies, such as carbolic acid, even when kept enclosed in wrappers, and substances soluble in water, or such as are acted upon by the alkali of the soap, are either dissolved out by the repeated use of the same cake, or are so changed by the constant exposure to the action of air and light and by the continual alternation of wetting and drying, as to become practically inert long before the cake is finished.

In order to avoid these radical defects he has substituted for the solid soda soaps a perfectly neutral potash soap (manufactured by A. Keysser, in Hanover). The process by which this is obtained is more complicated than that employed in making the ordinary sapo mollis. Olive oil and pure soda are combined, and the fatty acids are freed by the action of sulphuric acid. After thorough washing they are combined with caustic potash, and a small quantity of glycerine is added. The soap prepared in this way is absolutely neutral, giving no red colouration on the addition of phenolphthalein solution.

This form being too fluid to allow of the suspension in it of solid substances, such as sulphur or white precipitate, a thick *salve-soap* is prepared from it by evaporating it down until it becomes half solid. Every drug which can be mixed with the soda soaps can be incorporated with one or other of these two forms, and the following advantages over the cake form are claimed for them :—As it is only necessary to take out as much soap as is necessary for the one application, they can be kept from the influence of air and light, and protected from the constant diluent action of the water; the potash being more keratolytic than soda, a deeper penetration of the drugs into the skin and glands is effected; they are not wasted unnecessarily, and are consequently cheaper. They are easier to manipulate; the relative quantities of drug and base are more readily measured and more evenly distributed; any decomposition of the drug caused by the action of the soap becomes very evident by simple inspection in the potash soaps (generally through separation and deposition of fatty acids), whilst in the soda soaps such reactions are not always evident, and lead to many of the fallacies (*e.g.*, the neutralization of salicylic acid and destruction of its special properties) which have discredited the whole of the medicated soap treatment.

Buzzi is quite at variance with Unna and Eichhoff as to the necessity of overfatting all medicated soaps. He holds, on the contrary, that it is not so often the rotection of an excess of fat which is required when the soap-treatment is made use of, as the active cleansing keratolytic action of an alkali; and that excessive horning, abnormal formation of crusts, scabs or scales, plugging of the glands, and excessive fatting of the epidermis are more readily got rid of by potash soaps than by the action of overfatted or even neutral soaps. In his opinion the emulgent and keratolytic action ensures a clearer path for the drugs through the outer skin, and a consequently more rapid and deeper penetration, which is necessary where infiltrations in the corium, nerves, vessels, and glands have to be influenced. With this object in view, he has prepared an alkaline soap by adding a certain fixed percentage of alkali to the neutral soaps. For this purpose it was found that carbonate of potash was more suitable than caustic potash, the addition of 4 per cent. developing a sufficiently strong action in dissolving the horny tissue without irritating the skin even after long use, or even if applied without water and covered with an impermeable dressing. Should a dermatitis appear at first, it disappears under the continued application, a fact noticed by Auspitz and attributed by him to a dynamic influence of the soap alkali on the vessels of the papillary bodies.

Where these effects have to be avoided the soap may be overfatted by mechanically incorporating 3 to 4 per cent. of lanolin with the fluid base, and as much as 10 per cent. with the thicker form. Lanolin itself does not, it is true, form a soap, but its presence serves effectually to protect the skin from the action of the alkali, and its capacity of emulsionizing with water allows of the better absorption of the drugs by the skin (?). Clinically its effect is shown by the shining appearance which it leaves after the washing is completed. It has also the further advantage of protecting some easily decomposed substances, such as resorcin, from the action of the alkali.

The medicaments are incorporated in various ways, some directly, some in solution, some (fats, resins) in soap form, according to their individual nature. The dosage is relatively high, but can, of course, be easily regulated by the amount of water employed in the application. Buzzi has refrained from mixing various reagents together, until the effects of single drugs have been more thoroughly studied, and until the reaction of various substances on each other in the presence of the soap base is better known.

As yet no exact analysis has been made of the amount of the drugs which can be absorbed from the soap through the skin, with the exception of the iodide of potassium preparations; but it is probable that, if applied in conjunction with massage, they may be found to be of service in the treatment of internal diseases.

There are no general contraindications of any kind to the use of the soaps, even in acute diseases, and only the idiosyncrasy of individual skins need be taken into consideration. Sometimes it is necessary to intercalate the use of ointments in order to secure their emollient actions, but any casual irritation which may be produced at first generally disappears under the sedative action of the potash. The intensity of the action can be graduated by the choice of the soap used (alkaline, neutral or overfatted), and by the amount used and the quantity of water employed, or, again, by the degree of manual strength which is used (stroking on or firm rubbing), and by the length of time which the soap is allowed to remain on the skin. Covering the surface after the application with some waterproof substances considerably intensifies the effect, as in the case of ointments. The water, when used, should always be warm, so that any acid soap which may be formed from a possible dissolution of the neutral base is rendered soluble and thus be brought into play, or, if necessary, readily removed.

The choice of the soap, its strength, manner of application, and the necessity for associating it with other methods of treatment, must naturally lie in the discretion of the medical man. One great point to be borne in mind is the thoroughness of the application. Good effects are obtainable even in the most difficult and deep-lying affection with but small quantities of the soaps, if these are only incorporated into the skin as thoroughly as possible.

The simple soap bases are made, as above described, in six forms:—

1. Neutral soap bases—*a*. Fluid, thick honey yellow, transparent, forming clear solutions with water and spirit. When perfumed it constitutes a good toilet soap. *b*. Soft, of ointment consistence.

2. Alkaline soap bases—*a*. Fluid, acts very similarly to soap spirit. *b*, Soft, a substitute for soft soap.

8. Overfatted soap bases—*a*. Fluid, an excellent toilet soap for irritable skins. *b*. Soft, a substance having the properties of mollin, but without its disadvantages.

With one or other of these the various drugs are united or combined to form the medicated soaps. Several substances, and among them some of the most useful therapeutic agents, have been found to be unsuitable for this form of application, since they either decompose the soap base or are themselves decomposed by it; but the following abridged list contains all those which have been so far found by experience to be of service:—

Aristol soap, 5 per cent.; active in *psoriasis* and *eczema marginatum*, but too dear.

Camphor soap, 10 per cent., neutral, alkaline, and overfatted. In cases of *cold extremities*, *chilblains*, and *hyperhidrosis*, combined with friction. In *general hyperhidrosis* and *night sweats*. In *acne*, especially when accompanied with excessive formation of comedones. The fluid soap as a compress on *torpid ulcers*.

Carbolic soap, 8 to 5 per cent. in fluid form, neutral and overfatted. If the carbolic acid be freed from cresols, it does not decompose the basis. The acid in these combinations not being volatile has a much greater *antipruritic* effect than when applied in lotions or salves. It is also a valuable *disinfectant* for the hands of surgeons and anatomists.

Chrysarobin soap, 10 per cent. The salve soaps only are useful, and give excellent results in *psoriasis*, *seborrhœic* and *marginated eczemas*, and in *dermatomycoses*.

Creolin soap 10 per cent. is useful as a dressing for *ulcers of the leg*, deodorizing them rapidly and promoting free granulations; as a disinfectant in *furunculosis*, in *impetigo*, *sweating of the feet*, and *pediculi pubis*.

Iodide of potassium soap 5 per cent. As the iodide is absorbed into the body, these soaps are indicated in *strumous tumours*, *syphilitic hyperplasias*, and *chronic inflammatory infiltrations*.

Iodoform soap 2 per cent. As iodoform is insoluble in alkaline media it is necessary to add a solvent in order to ensure its incorporation. The 5 per cent. Camphor soap answers this purpose well, without interfering with its action, the mixture forming a convenient method of applying the drug in such cases as those in which it is now generally used in powder form, *e.g. wounds*, *ulcers*, *cold abscesses*, and in the preparation of tampons, also in *soft chancres*, *syphilitic sores* of the skin and mucous membranes, and *lupus*. Its action, as in the use of medicated soap generally, is increased if the affected area be covered with guttapercha paper after the soap is applied.

Creasote soap 5 per cent. has apparently been tried with some effect in *squamous eczemas* and *psoriasis*, and Buzzi speaks well of its influence on *ulcerated lupus* or *lupus erythematosus* which has been excoriated by other measures.

Cod-liver-oil soap 25 per cent. is said to produce rapid healing in *lichen scrofulosorum* and in *impetiginous eczemas*, especially the scrofulous forms which occur on the head, ears, nostrils, and corners of the mouth and eyes.

Lysol soap 3 per cent. has the same indications as that made with creolin.

Marble soap 10 per cent. made with an alkaline base unites the keratolytic action of the soap with the mechanical action of the marble powder. When well rubbed in it assists in cleansing and levelling the skin in such processes as *comedones*, *acne*, *lichen pilaris ichthyosis*, and *pityriasis simplex*.

Menthol soap 5 per cent. is an excellent palliative antipruritic in cases of *simple pruritus*, but is, of course, in no way curative, and should not be employed when the itching is caused by the presence of definite diseases of the skin, such as prurigo or eczema; nor in urticaria, where the carbolic soap is distinctly more useful.

Peru Balsam soap 10 per cent. constitutes an effective treatment for *scabies*.

Pyrogallic acid 10 per cent. *fluid soap* is very active in *psoriasis*, and keeps well for years.

Mercurial soap 33½ per cent., especially the overfatted kind, replaces mercurial ointment in all its usual indications, and has been found a clean and effectual agent in *syphilis* as an inunction, in the removal of *animal parasites*, and in aiding the resorption of *chronic inflammations* and *glandular swellings*.

Resorcin soap 5 per cent., if made with a neutral or overfatted base, and kept in the dark, stands fairly well, and only gradually darkens and loses its power. Buzzi speaks highly of its curative action in *eczema* (especially when very itchy), *rosacea*, *acne varioliformis*, *impetigo contagiosa*, and *sycosis*. It has surpassed all other remedies in the treatment of *seborrhœ (pityriasis) capitis*, and is generally useful where a keratoplastic, reducing, antiseptic and anti-inflammatory agent is required.

Sulphur precipitate soap 10 per cent. is too well known to need any notice of its special indications. The fluid form is, of course, impossible, the powder sinking to the bottom.

Styrax soap 25 per cent. is an effective and agreeable remedy in *scabies*. If the patient be rubbed with styrax potash soap and a piece of flannel twice daily for three days, the disease is generally completely removed. It is cleaner, cheaper, and of pleasanter odour than the Peruvian Balsam.

Sublimate soap 1 per cent. will keep good for months if the sublimate be dissolved in spirit and mixed with 3 per cent. oleic acid before being added to the neutral soap base. Its uses are well known, but its action in removing *pigment hypertrophies* is worthy of special mention.

Tannin soap 5 per cent. has been recommended by Unna in obstinate cases of *eczema*, and as a toilet soap for skins which are prone to *intertrigo*, *erythemata*, *desquamation* and *superficial vesications*; also in *pemphigus*.

Turpentine soap 5 per cent. serves rather as a means of replacing the ordinary turpentine salves and liniments for inunctions in chronic rheumatism, neuralgias, &c., than as a means for the treatment of skin diseases. It is, however, useful as a dressing for *atonic ulcers*.

Tar soap 5 per cent. and 20 per cent., made with Ol. fagi. The action of tar, and the forms of skin affection in which it is of service, need no enumeration. In the more obstinate cases the stronger mixture is advisable, in order to produce irritation and consequent hyperæmia, which is often of great curative assistance; for this latter purpose the application of guttapercha paper over the surface is helpful. In addition to *eczema* and *psoriasis*, Buzzi has treated *Alopecia areata* and *Prurigo* (Hebra) with great benefit with tar soap. Its use must be avoided in all acute forms of disease.

Thiol soap 10 per cent. Buzzi uses Riedel's thiol as a substitute for ichthyol, of which it possesses all the therapeutic properties without the ill odour and the high price. He has found it of service in the following diseases:—*Seborrhœa, rosacea, acne vulgaris, furunculosis, pustular eczema, intertrigines, erythrasma, erythema nodosum, purpura*, and also as an anodyne inunction in rheumatic and gouty pains and swellings.

Thymol soap 1 per cent. is suited to the treatment of the *mycotic diseases* of the skin, and is further useful as furnishing a means of cleansing and disinfecting of surgical instruments, without injuring the steel.

White precipitate soap 10 per cent. may be applied directly to the skin, and acts more directly and more pleasantly than the officinal ointment. Its indications are the same, chiefly *parasitic and syphilitic affections.*

Buzzi's list contains many more varieties, but most of these are as yet untried, and others are of merely theoretical interest. He avers that as yet no soap has been made which contained salicylic acid uncombined with alkali (a fact which has long been evident from clinical experience), and candidly confesses that he has so far been unable to manufacture such a one. Iodine has also been proved to be quite incompatible with alkaline oleates, and resorcin only under limited conditions.

The substitution of soaps for ointments has long been attempted. Hebra's "Wilkinson's Ointment" was used with the object of adding the keratolytic action of the potash in soft soap to the emollient effects of the ointment. This principle, which was developed and extended by Kersten, who made his Mollin—a very useful combination of glycerine and lard, partly saponified by caustic potash—into the base for a series of ointments. In Oberländer's mercurial ointment the base consisted of pure soft soap. Auspitz was the first to write fully on the action of medicated soaps, and was followed a few years later by Unna (*Volkmann's Vorträge*, No. 252), and recently by Eichhoff (*Dermatologische Studien*). The two latter have confined themselves to developing the emollient qualities of their soap bases by adding an excess of fat to hard soda soaps, and have only attempted to obtain keratolytic effects by the addition of such agents as salicylic acid, whereas Buzzi has tried to extend the working of his soaps in both directions by the incorporation either of excess of potash or excess of fat to a neutral base, and has selected the fluid and soft salve-like consistency of the potash soaps as being more durable, more easily managed, and more economical than the hard soda soap cakes which previous writers have recommended. The dual use of soap, both as a detergent agent and as a cleanly form of salve, is an important departure in modern dermatotherapeutics, and seems destined to render the application of many remedies more thorough and much less objectionable than it has hitherto been.

PATHOLOGY AND PATHOGENESIS OF LICHEN SCROFULOSORUM.

DR. JACOBY OF FREIBURG. (*Transactions of the German Dermatological Society;* Congress III., 1891.)

At the outset Dr. Jacobi alludes to the distinctive characters of lichen scrofulosorum, so clearly stated by Hebra and Kaposi, and expresses surprise at the difficulty French dermatologists (*v*. Besnier and Doyon's annotated translation of Kaposi's lectures on the pathology and treatment of skin diseases) have in recognizing the disease. Some of them apparently confound lichen scrofulosorum with pityriasis rubra pilaris of Devergie, in spite of the marked differences in the eruption and the almost constant presence of concomitant signs of scrofula (tubercular glands). Even were the two diseases proved to be identical, which Dr. Jacobi views as improbable, it would be in any case preferable to hold fast to the name lichen scrofulosorum which marks one of the essential features of the disease.

He then cites two cases. The first was that of a woman with extensive lupus of the head and tuberculosis of various glands, who had two distinct attacks of lichen scrofulosorum, both occurring when her local and general condition was worse. Under hospital treatment, and improvement of the general health, the skin affection disappeared without any local application.

The second was that of a person where the eruption, both as regards number and size of the efflorescences, was exceedingly well marked on the extensor surfaces of the limbs. Difficulty of diagnosis might have arisen were it not for the presence of various gradations upon the abdomen, showing the relation between the rash on the limbs and trunk, tuberculosis of the axillary glands, and subsequently the supervention of apical pulmonary mischief. Here, again, with improvement of the general health, the rash disappeared without any local treatment. *En passant*, Dr. Jacobi notes the efficacy of a dilute chrysarobin ointment as used in the skin department of the Breslau Hospital.

As regards the histology of the lesion, Dr. Jacobi confirms the statements of Kaposi. In two cases he excised typical effloresences from the skin over the wrists and from that of the abdomen, and found that the hair-follicles, sebaceous glands, and immediate vicinity were affected with inflammatory exudation, and hyperplasia of horny layer. Anatomically, the sections showed a striking resemblance to miliary tubercle; the lesion was well-defined, consisting of round, epitheloid, and giant-cells. In the preparation of the wrist-efflorescence epitheloid cells predominated, whereas in those of the abdomen the round cells were more numerous. Giant-cells were easily recognized, and the very superficial site of these, frequently quite close to the hair-follicle and in the apex of the dermic papillæ, was quite remarkable. In some of the papules one or two giant-cells only could be seen, in others five or six separated by epitheloid cells. No caseation was present, but there was more or less infiltration of the connective tissue in the neighbourhood of the blood-vessels, as is usually seen in chronic dermatoses. Dr. Jacobi, however, only succeeded in finding three bacilli which, from their size, form and situation (near giant-cells) and stain reaction he regards as tubercle bacilli. Inoculation experiments—with excised material from the second case—yielded negative results with guinea-pig and rabbit, and no bacilli could be detected in sections of the inoculation fragments after being six weeks in the abdomen of the guinea-pig. Cultivation experiments were not made. From the above facts, taken in connection with the clinical of aspect lichen scrofulosorum, Dr. Jacobi argues in favour of this skin disease being viewed as a form of tuberculosis of the skin, with certain limitations.

He accounts for the negative results of inoculation, the spontaneous cure of the affection with the improvement of the general health, and the absence of cicatrisation—due, perhaps, to the superficial situation of the tubercle in the dermic papillæ by regarding lichen scrofulosorum as a result of weakened tubercle material. He, however, admits that even the structure of a tubercle, as is well-known, is no proof of its tubercular origin, as it may be seen in papular syphilides; he rather rests his view on their number.

In conclusion he alludes to the results with Koch's tuberculin where lichen scrofulosorum disappeared, though preceded by a tuberculin rash (Neumann).

Schwenninger and Buzzi have recorded the appearance of lichen scrofulosorum after tuberculin; but Dr. Jacobi questions the accuracy of the observation.

FRANK H. BARENDT.

ON THE NATURE OF ACNE NECROTICA. DR. TOUTON, OF WIESBADEN. (*Transactions of the German Dermatological Society*, Congress III., 1891.)

It was Boeck who thus first designated the disease known as acne frontalis, and described by Hebra under the name of acne varioliformis. Boeck, from his microscopic researches, regarded the detached crust as a local necrosis, and as the most characteristic feature. Dr. Touton gives these particulars of a case which was under his care some five weeks.

An engineer, æt 45, who had been twenty-three years in India, returned to Europe suffering from dyspepsia; he was addicted to alcohol, taking daily from 100 to 200 grms. per diem of pure alcohol (4 or 8 fl. oz.). By reducing the amount, and carefully dieting, he recovered and returned to India. In the course of a month he noticed two or three pimples on his face and completely lost appetite. As there was a history of syphilis, he was treated with mercury and potassium iodide and boric acid ointment was applied. Improvement followed for a time. The eruption again spread, a diagnosis of "ecthyma" was made, and some of the pimples kept appearing in the old scars. After six months he returned to Europe and underwent a course of treatment at Aix-les-bains, where "acne" was diagnosed.

Shortly after he came under Dr. Touton's care. His face looked as though pitted with small-pox. The pits varied from a pin's head to a lentil in size, some were scalloped, and they were most numerous in the middle of the face. Between the depressed scars fatty, shiny crusts, especially on the nose and left temporal region, were firmly attached to the underlying surface, and surrounded by a zone of congestion. The whole facial integument showed an injected capillary network. On the chest there were also scattered depressions, some as large as a three-penny bit, and here and there covered with yellowish-brown crusts. He was then taking about 75 grms. (about fl. oz. 3) of alcohol per day. He was treated internally with arsenic, and externally with ointments (sulphur, white precipitate, resorcin, etc.), spirit lotions (resorcin), and sulphur baths. Alcohol was forbidden. He improved considerably. Dr. Touton examined, very carefully, an excised papule, the size of a hempseed, from the left frontal region and one from the back the size of a lentil. The results of his observations may thus be summarized.

There was round-celled infiltration with marked vascular distension in the upper and middle corium layers, especially in the neighbourhood of the hair-follicles, and also proliferation of connective tissue cells. These processes spread, extending to the epidermis, the line of demarcation between the epidermis and dermis being obliterated. The extensive accompanying exudation had induced stasis in the capillary network of the neighbouring papillæ, and actual hæmorrhages could be seen. This resulted in necrosis of the cutis and overlying epidermis, the cells of the latter becoming compressed and vacuolated by the exudation.

Dr. Touton describes no less than four kinds of micro-organisms: staphylococcus, tetracoccus, a short, thick bacillus; as regards the last two he questions whether they are distinct species (!) None of these were found in the corium or in the fundus of a hair-follicle near the primary focus of inflammation; on the contrary they were chiefly in the upper layers of the crust and clustering around the orifices of the hair-follicles. Consequently Dr. Touton regards their presence as secondary, and in all probability conditioned by the antecedent changes in cutis and epidermis.

Arguing from bromine and iodine acne, the writer favours the idea that the primary cause of the morbid process is some irritant conveyed to the blood-vessels supplying hair-follicles, the sebaceous glands and circumjacent dermic papillæ. Should pus micro-organisms be present, suppuration ensues. In acne necrotica, however, the inflammatory process speedily leads to blood-stasis and consequent necrosis *en masse*.

In the above case alcohol undoubtedly was the effective agent, the thickened walls of the vessels leading to the seat of inflammation, their dilatation, and stasis and extravasation of blood were all evidence of alcoholic irritation. The micro-organisms no doubt caused the suppuration around old-standing crusts.

Dr. Touton admits, however, that acne necrotica may occur without any evidence of alcoholism, and alludes to the tendency of local skin necrosis in diabetes and syphilis especially as the result of syphilitic disease of the arterioles. The urine was not examined in any of his cases for sugar.

Finally the writer reviews the literature of the subject. Hebra described the disease first; Boeck regarded his cases as identical with Hebra's; Leloir and Vidal called the disease acne rodens. Pick, of Prague, views acne varioliformis (Hebra) as different to acne-necrotica. In the former the process of inflammation predominates, brown-red papules—vesicles and pustules—resembling variola being present, whereas in the latter necrosis is the characteristic feature.

Touton himself is inclined to regard his case as an extreme example in point of rapidity of necrosis, of acne necrotica, but leaves it an open question as to how far the presence and character of the micro-organisms determine the inflammatory process (acne varioliformis) or the necrotic process (acne necrotica) of the disease known under these names. FRANK H. BARENDT.

XERODERMA PIGMENTOSUM.

Dr. Brayton, of Indianapolis, records (with a coloured illustration) a case of xeroderma pigmentosum in the person of a female, aged 16 years, the third child of a family of seven, born of well-to-do German farm people. The second child, a male, suffered from the same disease. The brother and sister were attacked between the fifth and sixth months of infancy. The usual history of sunburn at the sixth month was obtained; in a year the face and neck were invaded; the second and third summers the extremities to knee and elbow were mottled brown, black and red, with white patches intermingling. The boy had numerous tumours of the face, became weak and sickly in his seventh year, developed a rodent ulcer, which destroyed the nose, eye, and upper jaw, and died of malignant growth of the face at nine years of age. The girl at fifteen was well developed and healthy. The lesions had the characteristic distribution, and spared the palm and soles, the scalp, and the trunk, except at the root of the neck. Large areas of the outer thigh, leg and arm presented the aspect of mild scaling echthyosis. Extensive atrophy and consequent deformity of the eyes, orifices and ears resulted from the pigmentations and blood splotches. Ordinary warts are scattered about, mostly on the hands and feet, also lesions resembling senile keratosis, and dark, soft, red compressible blood tumours. The latter shrivel away. There is a tendency to fungation of patches, and one suspicious obstinate ulcer at the base of the right nostril. Dr. Politzer, of New York, supplements this record with a resumé of the probable course of pathological process, and a description of specimens of malignant growth handed to him by Dr. Radcliffe Crocker. Dr. Politzer figures various neoplasms co-existing in the same section, viz., spindle-celled and round-celled sarcoma, myxoma, and epithelioma. Lastly he describes two forms of degeneration hitherto unrecorded in this disease, but a reference to his figures is necessary for the exact appreciation of these changes. (*Journ. Cut. and Gen.-Urin. Dis.*, April, 1892.) T. C. F.

BASSORIN PASTE.

Dr. Geo. T. Elliot returns to the subject of Bassorin, *obtained from gum tragacanth*, as a base for the preparation of a paste or varnish. Almost any drug can be incorporated with it, and he thinks it superior to greasy applications, to collodium, &c. It is cleanly, dries rapidly, can be easily applied, and afterwards removed by means of a little water, or a wet sponge, and keeps sweet. The following odourless, smooth, jelly-like paste was recommended by Lascar:—

℞	Bassorin	48
	Dextrin	25
	Glycerin	10
	Water	q.s. at ft. 100.

M. To be kept in a well-closed glass jar.

Elliot points out that Pick's bassorin varnish contains all the other constituents of gum tragacanth. Unna and Beiersdorf obtained the bassorin simply and cheaply from salep (the prepared bulb of orchis mascula), but Lascar had already discarded this source, because there was an admixture of starch, which caused the paste to become sour very rapidly.

Elliot now presents his more matured experience of the value of this remedy. During the heat of summer his bassorin paste is of limited use, as it does not dry completely owing to the admixture of perspiration, especially between folds of skin. The addition of 5 to 10 per cent. of zinc oxide, or amylum, or orris, &c., somewhat obviated this difficulty. In colder weather the cleanliness and absence of greasiness makes it an agreeable preparation in private practice.

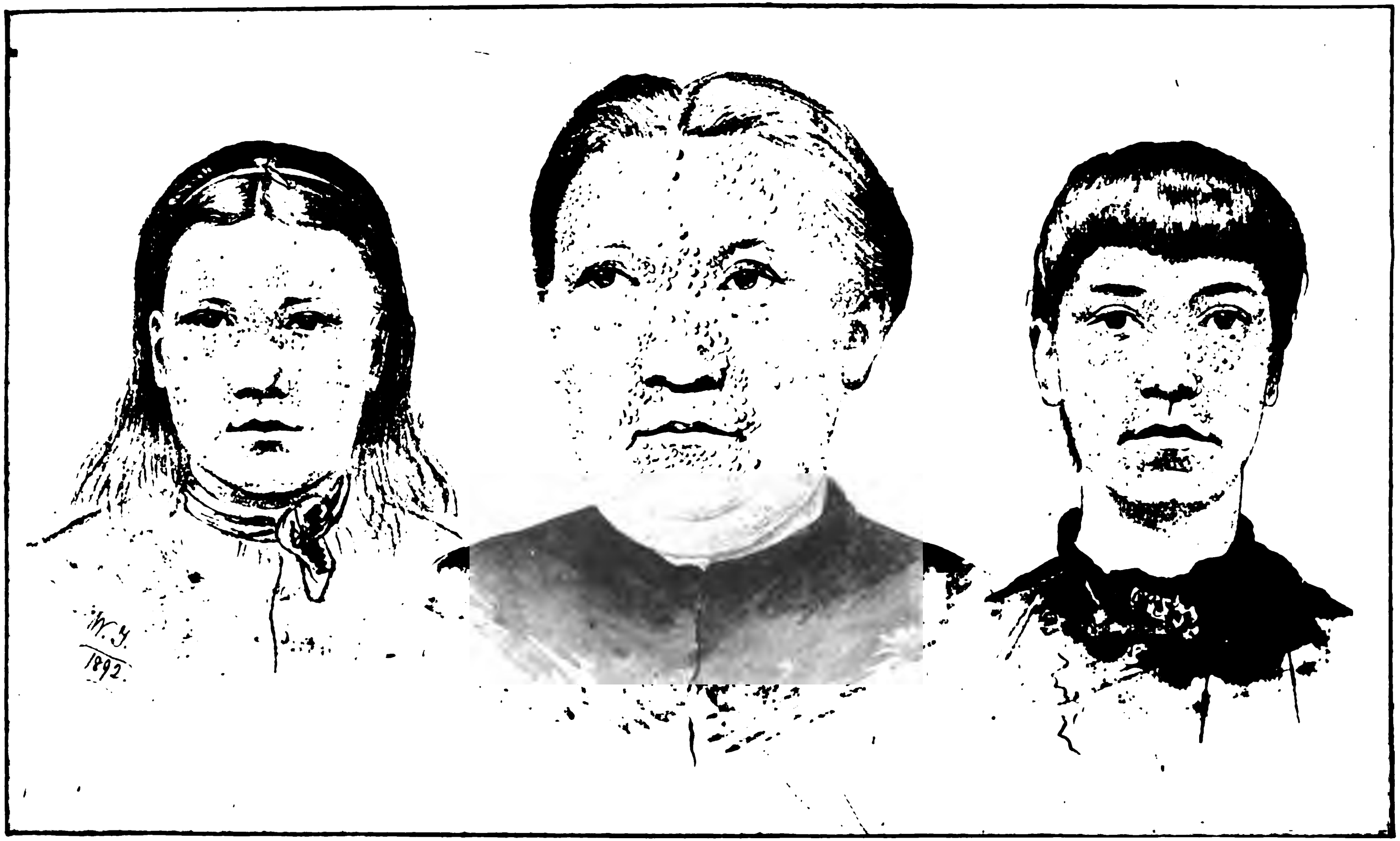
In psoriasis this method of treatment was disappointing, when chrysarobin (10 to 15 per cent.), or pyrogallic acid (5 to 10 per cent.), or ol. rusci (ʒj—iss. in ℥j) were used. A 10 per cent. gallacetophenone-bassorin paste gave good results in one case. In certain cases of acne, where acutely inflamed papulo-pustules and pustules predominated, a varnish containing zinc oxide, grs. xx, magnesiæ carbonat, grs. xv, acidi borice, grs. xxx., bassorin paste, ℥j, and applied at night had a capital effect. As the acute symptoms subsided 8 to 6 per cent. ichthyol, or 6 to 10 per cent. sulphur, &c., were added. In rosacea of various origin the bassorin was also very serviceable as the basis of local treatment. Suitable internal remedies associated with the application of an ichthyol or a sulphur-bassorin paste, either alone at night or combined with a resorcin or boric acid lotion in the day time, and daily washing with soap and water gave as good results as any Dr. Elliot used. In the form originating from seborrhœic eczema the effect of bassorin-resorcin, or bassorin-aristol or sulphur was particularly brilliant and rapid. In all the forms of seborrhœic eczema on non-hairy surfaces the bassorin was superior to any other menstruum. So also in parasitic eczemas and others superficial in seat. In chronic thickened eczema only the itching was relieved. In pruritus it was most useful, also in tinea circinata, and especially T. versicolor.—(*Journ. Cut. and Gen.-Urin. Dis.*, May, 1892.) T. C. F.

MOLLUSCUM CONTAGIOSUM.

Dr. Graham, of Toronto, describes an outbreak of fifteen cases of molluscum contagiosum in the nursery of an infants' home. The disease was apparently spread by contagion from the person of one child, who was admitted with it. Attempts to inoculate the affection experimentally failed. A micrococcus was isolated by cultures from the contents of the tumours. It grows only at the temperature of the body, stains well with methylene-blue-carbolic fuchsin, and with Gram's method, but does not stain by Neelson's method. On agar and potato it grows as a pure white colony with a glistening surface.

Dr. Macallum reports upon the histology of the tumours removed in these cases. In all his preparations the stratum mucosum of the epidermis was the part which gave origin to the growth. Whether the latter ever originate in hair-follicles or in sebaceous glands he could not determine from his preparations. He figures the layer of eleidin continued directly from the healthy skin on one side through the molluscum growth and parallel with the lower periphery of the same, to the healthy skin on the other side. He does not explain the invariable presence of a duct-like opening into the tumours. Macallum found the first trace of the "corpuscle" usually in the cells of the third or fourth layer of the epithelium of the molluscum, where it appears as a small spherule, at first not larger than a nuclear plasmosoma (eosinophilous nucleolus of Ogata). The spherule gradually increases in size as the cell is pushed outward, until finally it includes the contents of the nucleus and the major part of the cytoplasm. This body is homogeneous till it has attained nearly the same size as the nucleus, when the eosinophilous substance precipitates in the form of granules arranged in a reticulum, the spaces of which enlarge as the corpuscle enlarges. Further, when the boundaries of the corpuscle touch on the extreme cell periphery, the granules again become gradually dissolved, and in the stratum corresponding to the stratum corneum of healthy epidermis the nucleus dissolves, the granules all but disappear, the whole corpuscle, now bounded by a doubly-contoured membrane, stains fairly uniformly with hæmatoxylin, eosin, and deeply so with sapanin. The corpuscle finally includes the contents of the cell, the only structural part of which remaining is the doubly-contoured membrane.

Macallum does not think the corpuscles are coccidia or parasitic elements, but believes them to be extruded or migrated eosinophilous nucleoli (plasmosomata) composed of modified chromatin. He has frequently observed such a migration from the nuclei of epitheliomatous cells, and has confirmed Ogata's observations on the migration of plasmosomata from the nuclei of the pancreatic cells in amphibia. He also determined that the corpuscles were not formed of true amyloid material. Examples of mitosis are not as abundant as in epithelioma, although much more abundant than in healthy epidermis. (*Journ. of Cutan. and Gen. Urin. Dis.*—March, 1892. T. C. F.



BROOKE. EPITHELIOMA ADENOIDES CYSTICUM.

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EPITHELIOMA ADENOIDES CYSTICUM.

BY H. G. BROOKE,

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SINCE this curious form of new growth was first described by Jacquet and Darier, in 1887,* under the title of *Hydradénome éruptif*, it has been the subject of several investigations, but so far without any definite conclusions having been arrived at as to its pathological anatomy and relations, its source and site of origin, the earliest and latest dates of its commencement, its possible modifications, macroscopic and microscopic, and the limits of its distribution. This is almost inevitable, even after the very careful investigation to which it has been subjected, on account of the limited number of cases,—six or seven in all—which have as yet come under observation, and the many unusual features which it presents, and it is only after the comparison of the results of a more extensive material that it will be possible to clear up the present ambiguities.

My own contribution to the subject is based upon the observation of four cases, of which two have been examined microscopically. They correspond exactly as regards the form and development of the lesions, and also in their pathological anatomical changes, but as they vary somewhat in all these points from some of the other recorded cases, it will be well to describe briefly their general clinical appear-

* *Annales de Dermatologie et Syphiligraphie*, 1887.

ance, and compare them with those which differ in any way from them in this respect, while still resembling them microscopically with sufficient closeness to justify their identification as instances of the same pathological process.

Clinical Appearance.—The affection presents itself in the form of small tumours, varying in size from the head of a pin, projecting very slightly above the surface, to that of the half of a small pea. They are at first of the colour of the surrounding skin, or may be a little darker, as if some minute body of neutral tint were imbedded beneath the epidermis. Philippson* speaks of seeing a skin completely studded with these "pin-head sized, dark little dots." In my cases this appearance was only noticed in a few isolated lesions, and almost confined to the trunk. As the growths increase in size, they become often shining and translucent, but hardly sufficiently so to suggest that they really contain fluid. Some have a faint yellowish or bluish tinge. Nearly all contain one or more minute white milium-like bodies, which are plainly visible to even a casual inspection. The size of these bodies bears no marked relation to that of the lesions in which they occur, some of the larger nodules presenting no external sign of containing any, whilst a small nodule here and there seems to be nearly filled up by its white contents ; again, two or three may occur in one nodule.

These colours are not those described by Darier and Jacquet, who speak of the lesions in their case as being of a roseate hue (*rosées*), and figure them as having almost an inflammatory redness. One of Philippson's cases presented a few tubers having a red areola, and containing yellow pigment, but the rest of the lesions in both cases correspond to the description in my cases. Those in Török's case did not differ in colour from the surrounding skin. In Quinquaud's patient† the lesions were of a *café-au-lait* or attenuated yellow shade, suggesting the colour of pityriasis versicolor, or rather of xanthoma, and became red with the slightest irritation; but, as Quinquaud notes, the skin was generally very irritable, even in parts which were free from all lesions. In the patient who is the subject of Perry's illustration in the "International Atlas,"* the papules were of a pale white colour, some containing "black points beneath the skin." This excellent chromolithograph so closely represents the appearance presented by my four cases, that I thought it unnecessary to have a reproduction of them made in colour.

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* Die Beziehungen des Kolloid-Milium (E. Wagner), der Kolloiden Degeneration der Cutis (Besnier), und des Hydradenome (Darier-Jacquet) zu einander *Monats. f. prakt. Dermatol.* Bd. XI., No. 1. Also in this *Journal*, Feb., 1891.

† *Congrès Internat. de Dermatologie, etc.*, 1889, *Comptes Rendus*, p. 412.

As regards the feel of the papules all the writers are unanimous. They are firm without being hard, and if taken between the fingers can be felt to lie in the skin, and to move with it.

Their *distribution*, however, is a point on which the various cases have differed greatly. My own all closely resembled each other. The sites of predilection were the space between the eyebrows, the root of the nose, the nostrils and neighbouring area of the cheeks, the upper lip, and, to a less extent, the chin. In these situations they become so thickly grouped together as to form raised lumpy patches of most disfiguring appearance. They also occurred on the back, in the middle line, between the shoulders, and later on they were found scattered as solitary papules about the rest of the face, on the scalp, especially the front portion, and, in one case (Mrs. E.), freely on the tragus and aurocephalic furrow, where they formed thickly grouped masses as on the face. They were strewn thinly over the shoulders and upper part of the back, on the neck and upper part of the arms, and slightly on the chest. In one of the cases (Louisa E.) there was a suspicion of their occurrence on the lower legs, but no microscopic examination was made. Papules were certainly present, but the patient, who is a flax-worker, and stands about all day long among wet flax, stated that such eruptions (together with the eczematous eruption described by Leloir), were common amongst her fellow-workers in the mill.

In Jacquet and Darier's case the little tumours were confined to that area of the front of the neck and trunk which would be covered by "the front valve of a cuirass," and on the inner surface of the upper limbs. They appeared beneath the clavicles and spread downwards as far as the umbilicus.

In the instance which Török† investigated they were first noticed on the chest near the axillæ, from whence they spread gradually towards the scrobiculus cordis.

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* E. C. Perry, "Adenoma of the Sweat-glands," *International Atlas of Rare Skin Diseases*, No. IX.

† Das Syringo-cystadenom. *Monats. f. prakt. Derm.*, Bd. VIII., No. 8.

In the case recorded by Quinquaud the lesions, as in Jacquet and Darier's case, originated just beneath the clavicles, from whence they spread upwards and downwards until the lower third of the neck and the upper third of the chest were covered with hundreds of papules, which coalesced finally, to form slightly projecting groups. Over the sternum, on the sides of the trunk, and on the sub-umbilical part of the abdomen, they were present in quantity, but on the hypogastric region they were less frequent. There were two or three little nodules on the forehead in the temporal region and about the inner corners of the eyes, but none elsewhere on the face and head.

In Perry's patient the lesions were confined strictly to the face, where their distribution resembled that in my cases, being limited mainly to the parts around the eyes, bridge of the nose, nasal furrows, and around the mouth.

In one of Philippson's cases the new growths were restricted to the lower eyelids, in the second they occurred not only there, but also on the chest. They were densest between the mamilla and clavicle, but extended from below the mamilla towards the axillary region, and on the sides downwards to the edge of the ribs, the number of nodules gradually decreasing. A few were also found on the anterior and median aspect of the upper arm and above the clavicle.

On the supposition that the case described by Kaposi* as Lymphangioma tuberosum multiplex was in reality not a lymphangioma at all, but a case of the disease under discussion, a question which will be further referred to, we may add another to the list of subjects in which the lesions are confined to the body. He speaks of them as scattered everywhere over the trunk, from the pelvic region to the submaxillary region and the back of the neck, as far as the hairy scalp. In a case recorded under the same name by Lesser and Beneke† the tumours were found on the front and side parts of the trunk only.

From this brief review it is evident that the lesions may occur on any part of the body, from the occiput to the pelvis, and on the upper part of the arms and doubtfully on the lower legs. The intense affection of the skin of the head and face is particularly worthy of notice, inasmuch as it has only been observed in the five English cases. In those recorded in France and Germany, lesions on the face have either not been present at all, or, if present, have been so enormously outnumbered by those on the body as to have been regarded almost as chance outlying stragglers. Thus Besnier,* in his long and able critical note on these *Cystadénomes epithéliaux bénins*, says, "The site of predilection is represented by the neck and the anterior thoracico-abdominal region, but the eruption may be encountered on the other points of the trunk and limbs, particularly on the flexor surfaces," thus ignoring its existence in the very regions in which Perry and I have found it to occur most plentifully.

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* Hebra's *Diseases of the Skin*, English Edition, Vol. III. p. 387.

† "Ein Fall von Lymphangioma tuberosum multiplex" (Kaposi). *Virchows Archiv.*, 1891, Heft 1.

The *course* of the affection is always slow, but may vary at times, taking on a sudden acceleration, even after many years' duration. It begins in youth, for the most part between the tenth and fourteenth year, so far as the insidious and inconspicuous origin of the growth will allow the patient to judge; only in one case, that of Lesser and Beneke, is it said to have been first noticed later in life (forty-second year). In no case which has yet been recorded has there been any attempt at spontaneous involution; on the contrary, the lesions either persist unchanged for years, or increase until they reach the size of a small pea, a limit which they never exceed.

The *symptoms*, if any are present, are very slight, at most a little pricking when the skin is hot, or an occasional itching. The nodules are not in any way painful, and generally seem to have escaped the patient's notice until the great increase in their number attracts his attention.

The *history* of my cases corresponds with that given by other writers.

1. M. C., a girl, æt. 20. The tumours were first noticed eight years since between the eyebrows, and had increased very slowly until about two years ago, when a more rapid increase had taken place. They were distributed, like those in Perry's case, about the eyebrows, inner corners of the eyes, bridge of the nose, neighbourhood of the

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* *Pathologie et Traitement des Maladies de la Peau*, par Kaposi. Traduction par Besnier et Doyon. II. Edition française, 1891, Tome II., p. 368.

nostrils and the mouth, a few discrete lesions being scattered about the rest of the face. There were some on the neck at the nape and sides, and a larger number on the upper third of the back and shoulders, but more especially in the space between the scapulæ.

The other three cases* were of particular interest, inasmuch as they were members of one family, and seem to point to an hereditary factor in the origin of the tumours. So far as I know, no other instance has been recorded of their occurrence in more than one member of a family, except that in the case of Quinquaud's patient, who stated that his sister had something of the same sort (*quelque chose de semblable*) on her neck. My patients were a widow and her only two children, and she is sure that none of her other relatives have been affected in the same way.

2. Mrs. E., æt. 50, the subject of the middle figure in the plate.† The lesions were first observed in her youth, and she had only very few when she was married at the age of 21. Of late years they have, according to her statement, much increased in number.

3. Louisa E., æt. 18, the elder of the daughters, is already thickly covered with new growths, which agglomerate in masses in those regions of the face most affected in the mother, but are also scattered freely over the neck, upper part of the back, shoulders, upper surfaces of the arms, both inside and out, and very sparsely on the chest. The largest are found on the scalp, especially towards the front; these are covered as copiously with hair as the normal skin around them. A few nodules, which appeared to be of the same nature, were found on the shins, but the mother suspected that they were caused by the action of wet flax.

4. Lily E., æt. 14, presented comparatively few nodules, but many are quite well developed. They are as yet confined to the face and neck. As was the case with her sister, they were first discovered when she was about 10 years of age, and have been gradually increasing in number and size.

In all four cases the growths were identical in clinical appearance. They appeared at a little distance to be of the normal colour of the skin, but a closer inspection showed that some had a slightly bluish or yellowish tinge, or a whitish cast, due to the presence of brightly refracting milium-like bodies.

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* Kindly sent to me by Dr. Siegmund Moritz, of this city.

† The figures were drawn from the patients with the aid of photographs, it having been found impossible to represent the lesions satisfactorily by the aid of photography alone.

For *microscopic examination,* nodules were excised both from the face and back of cases 1 and 3, hardened in a half per cent. solution of acetic and chromic acids, and subsequently in alcohol. They were stained in hæmatoxylin or in indulin-safranin. The latter colouring gave an excellent conception of the form and extent of the new growth, which, tinged exclusively by the safranin-red, stood out boldly on the bright blue background furnished by the indulin.

It was at once seen that the papule was formed by the presence of a cellular new growth lying in the corium. At the first glance of some of the sections this growth closely resembled an adenoma of the sweat-coils. Some writers have disputed this resemblance, but their conclusions must have been based on the examination of material which differed from some of mine (and apparently that examined by Perry), which required a careful examination with a high power to differentiate between the new elements and the exaggerated coils of a sweat-gland.

The appearance presented by a specimen in which the new formation was mixed up with hair sacs was not so clear as that of such a section as is shown in fig. 1, in which the thin rope-like tracts, or finger-like prolongations of epithelium, are cut across at all angles, and evidently represent the section of an intricately convoluted mass. In none of my specimens was the growth shown with the simplicity which is delineated in Darier's figure, for the tracts invariably coiled on themselves to form masses of various shapes, in which, however, the primitive tract formation was always visible. Lying in these tracts, but more generally in the masses, were cysts of circular or oval shape, filled with either purely colloid matter, or partly with colloid and partly with concentric layers of apparently horned epithelium. In some sections this cyst formation was elementary, and had to be examined with a high power (see fig. 7): in others, owing to the large size of the cysts, and the brilliant refractions of their contents, it constituted the most striking feature of the picture.

The cells of which the strands and masses are composed are evidently epithelial. On that all observers have been agreed; the main point in the discussion has turned on the source of their origin, and more especially on their identification with the sudoriparous glands, or with collapsed lymphatics vessels (Beneke).

Darier,[*] after a very careful examination of his case, thought that he wàs justified in concluding that the long coiling epithelial tracts were veritable prolongations from the actual sweat-glands which were there present before the new growth commenced. He figures a canal, like a sweat-duct, opening directly into a cyst, and he found a distinct prolongation budding from an undoubted duct near its mouth. On these grounds he considered that he was justified in regarding the growth as "an *epithelioma adenoides,* having its origin in the sudoriparous glands."

It would be useless to combat this view, as Darier has since that time abandoned it in favour of the one now held by Jacquet.[†] There was little in its favour, for the connection between the growth and the ducts was not anatomically demonstrated, and as Török rightly objected, it was unlikely that a normal sweat-gland should suddenly, in its upper portion, develope such a growth, whilst leaving the coil beneath quite normal.

Török himself regarded the epithelial strands not as ducts (although he refers to them repeatedly as "canals"), but as attempts at an adenomatous formation on the part of the embryonic sweat-gland buds, the development being postponed until youth or adult age, like that of "sebaceous cysts" and other dermoids, or of various epithelial and granulomatous tumours, in conformity with Cohnheim's theory. In accordance with this view, he found that many of the cysts were formed by the gradual dilatation of the tubes, and eventual separation by constriction of the part in which they lay. And as the tracts in which this process took place corresponded, in his opinion, to the tubes, and not to the glomerulus of the normal gland, he named the growth, in conjunction with Unna, *Syringo-cystadenoma.*[‡]

But however tempting it may seem to regard these tracts as allied in some way to sweat ducts or glands, a careful examination shows that they really have not at all an identical formation, and that the tube-like form which they assume is only apparent. I have never been able to find a single instance of a true lumen in either the tracks or the masses. Two long parallel rows of small palisade cells, almost meeting at their bases, seem frequently to show a clear space between them, as if they really formed the wall of a tube, but a high power has shown invariably the existence of one or more rows of elongated cells, of much lighter colour, filling up the supposed cavity, and only when one of these cells, which has become colloid, as is frequently the case, is seen in cross section, is the illusion of a lumen at all a troublesome one.

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[*] *l.c.*

[†] Besnier, *l.c.* p. 370.

[‡] Συριγξ = a narrow tube.

A reference to fig. 1 will show how freely the tracts branch and intercommunicate, in places extending to great lengths, in others uniting or contributing to form the scaffolding of densely cellular masses.

In others the dense cell-masses predominate, the tube-like tracts being few in number, but in all cases the clean cut figures are separated off from the surrounding connective tissues by one layer, or more, of palisade-like cells, which stain more darkly than the interior of the growth. There is, in many places, what appears to be a distinct membrana limitans, but I have not found it invariably. Most other writers deny its existence altogether, but I have found it frequently as clearly marked as that of the epidermis.

The connective tissue which surrounds the epithelial growths is not the ordinary normal tissue of the corium, but a mass of much finer texture, and is, as it were, moulded round the contour of the growth to form a dense capsule. This appearance is well shown in fig. 1, and the density and thickness of the layer both indicate the age and slowness of the rate of growth. It is not nearly so well seen where the cutis is thinner and the epithelial masses impinge closely on hair sacs and sebaceous glands laterally, and on fat cell clusters below, but the same arrangement is nevertheless observed, even in very elementary nodules. The large number of small connective tissue cells which this silky looking mass exhibits, and the presence in it of vessels surrounded with proliferation cells, taken in conjunction with the peculiar manner in which it moulds itself to the epithelial growths, would point to the fact that it is a product of the irritation which they set up; and it is quite a probable conjecture that it is owing to the tension necessarily exercised by this capsule that the peculiar limitation of the size of the growths is due. The outer layer, when beyond the reach of irritation, would cease to grow further, and the capability of further extension of the epithelial elements would thus cease. This explanation is, of course, hypothetical, but it is the only one which I have been able to find to explain the strict limitation of the growths (to the size of a small pea), which all observers alike have noted.

The first beginnings of the cysts have been accurately described by Török and Philippson. Epithelial cells, lying either in the middle of the thin prolongations between outer rows of palisade cells, or in the midst of the larger masses, become large and translucent, the cells around them take on a like action, and a little focus of degenerated cells is thus produced. Owing, apparently, to the centrifugal and lateral pressure, the neighbouring cells assume a cubical shape, and form a kind of wall round the central mass. The cells constituting the original focus increase in size, lose their clear contours, and form translucent clumps in which the nucleus is very faintly stained and finally disappears. As the mass grows the cells at the periphery become more and more flattened and condensed, until they at length consolidate into a solid cyst-wall. This compressed layer stains deeply, and in the larger cysts it is often no longer possible to distinguish the individual cells of which it is composed.

The contents vary; in some of the cavities they are completely colloid, in others they are composed of concentric layers of flattened horny cells round a colloid centre; or, again, part of the contents may consist of a colloid mass and part of horny layers; but I have not found one cyst in which the whole of the contents were made up of horny cells. The presence of colloid matter seems to be an essential factor in the origin of the cysts, even if the latter additions to its circumference undergo the more normal transformation into corneous tissue. It is only when the colloid mass reaches a certain size, and thus produces a corresponding amount of outward pressure, that a true cyst is formed.

Colloid masses of small size, such as those indicated in figs. 1 and 7, are found scattered freely through all portions of the growth. Nor is the degeneration confined to the older tumours, but seems to be an essential feature of the growth from its beginning. Large cysts may be found in small papules, and larger growths, such as that delineated in fig. 1, may be free from any except those of the smallest size.

The shape of the sections of formed cysts is generally circular or ovoid, indicating that the shape of the mass is spherical or egg-like. Occasionally two cyst-walls touch, and become more or less obliterated, the cavities thus uniting to produce a single cyst (Török, Philippson). Somewhat more elongated forms are traceable in the thicker sections, but it is evident that their contour is really an adjustment between the varying centrifugal and centripetal pressures, the one expanding, the other resisting, and that they are not filling any pre-formed cavities. The cyst grows at the expense of the neighbouring epithelium, and it may absorb the cells so completely as to give the appearance of being isolated in the connective tissue, but in other sections the trace of epithelium connecting it with the body of the growth, and in which it has originally formed, may be found intact.

With the exception of Darier's now abandoned theory, speculation with regard to the origin of the growth has been limited to suggestions as to its embryonic character, and the discussion has turned mainly on the question of the primary site of the particular cells to which it owes its birth.

As stated above, Török regards the sweat-glands as the source from which it springs, not as Darier did the glands or ducts in their fully formed state, but the embryonic buds which were originally destined to sweat-gland formation. They are sweat-gland monstrosities, "*verunglückte Knaueldrüsenlage.*" He bases this opinion on several considerations; firstly, that there are but very few sweat-ducts present in the neighbourhood of the growths, and that the coils of the sweat-glands below the tumour are present in correspondingly diminished numbers; again, because the cysts and canals keep to the middle area of the corium, the coil region being as free from growths as the subepithelial layer. This fact, as he considers, definitely shows that in these spots no sweat-glands have ever been formed, but that the embryonic sweat-gland buds have been prevented from descending to the depth of the coils, which have consequently never formed, and that the upper part has become constricted off from the superficial epithelium. Moreover, he has found cysts in the substance of the arrectores pilorum, which could, he thinks, only have found their way there in their embryonic condition, and would not have been likely to burrow into such hard material when a path of less resistance was open to them in the surrounding connective tissue. I cannot discuss Török's reasons on his own grounds, for my observations differ essentially from his. In my sections I have often found sweat glands running into a tumour and disappearing, sometimes to be seen in later sections cut across, but still normal, in another part of the growth; more frequently they are simply pushed aside by the new mass. In several specimens healthy coils have been found immediately below the epitheliomatous growth, in others the growth is at a lower level than the coil. Nor have I found that the growth respected any area of the skin, as fig. 6, which is not at all an isolated case, clearly shows. It actually invades the superficial epithelium, the subepithelial layer is often filled by it, and prolongations stretch right in and among the clusters of fat cells. I have also, like Török, seen it pass into an arrector muscle, but the invading cells could be seen to be a prolongation from a large neighbouring mass of the new growth.

Quinquaud* found that the epithelium, hair sacs, and sweat-glands were all perfectly normal in the two specimens which he examined, and therefore rejected the sweat-gland hypothesis as to the origin of the growth. He thinks that aberrant epithelial cells might be the point of departure of this "eruptive celluloma," which would thus have a late evolution during youth, and hence names it *eruptive epithelial cystic celluloma*, that is to say, a benign tumour of epithelial growth, as distinct from the ordinary epithelioma, to which the idea of malignancy is usually attached.

Jacquet† in this, his second communication on the subject, denies all relations between this neoplasm and the sudoriparous glands. He believes the growths to be epithelial tumours "developed at the expense of erratic para-epithelial débris, which has emanated, at the embryonic period, from the under surface of the ectoderm, or of its glandular buds," analogously to those discovered by Malassez in the corium of the mucous membrane of the gums. He supports the congenital origin of the affection, and quotes the case of a woman in whom the tumours, which occurred in the region of the mamma, increased remarkably at every one of her five pregnancies, the para-epithelial débris, which was previously in a state of lethargy, being then excited to proliferate more actively.

The results of my observations do not disprove the hypotheses of Török, Quinquaud and Jacquet as to the tardy development of the growth from embryonic epithelium, either gland-buds, or débris, but they demonstrate directly one mode of origin which may possibly supply a sufficient explanation for all the cases.

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* *l.c.*

† *Ibidem.*

An examination of figs. 1 to 6 shows that the growths there depicted originate directly from the epidermis, and not from the epidermic stratum alone, but also from the epithelium of the hair sacs.

In fig. 2 the growth is seen to spring by a broad base directly from the rete Malpighii, and to break up at once into a mass of epithelial strands among which distinct colloid degeneration is taking place, leading to the formation of well-marked cysts. In fig. 4 a simple prolongation, which may quite well be a gland-bud of the fifth month, a single cyst has formed at the extremity, and in figs. 2 and 5 such cysts have actually formed in the epidermis, the growth continuing below in the usual gland-like projections.

Fig. 1 shows two distinct finger-like outgrowths from a hair sac, and fig. 2 a similar projection growing out from another small hair sac, and developing a cyst at its extremity. Bud-like growths I have seen from many hair sacs, but as such offshoots are not uncommon in other affections, too much weight cannot be set upon them. I took special care, however, to note that these growths which I have figured were not simply of this nature, but actual manifestations of tumour formation. It was noticeable that these projections were invariably found on the sacs of minute lanugo hairs, while those of larger size were always intact.

There is nothing, of course, inconsistent between these facts and the supposed embryonic origin. It is quite possible that the cells from which the growth started had retained their embryonic nature, for the commencement of the growths, or at least their clinical appearance, during youth, and the strong suspicion of heredity in the case of the mother and her two daughters all tend to support this view.

Although there seem to be features in both the cases which I have examined, which stand in direct opposition to the observations on which Török bases his embryonic sweat-gland theory, there are none against the suggestion made by Jacquet, which may hold good in conjunction with the mode of origin which my material clearly demonstrates. On the other hand it may be simply chance which has prevented the earlier discovery of this direct connection between the normal epithelium and the epithelioma. Philippson, indeed, did notice one distinct connection between the growth and the epidermis, but because it was a solitary instance he laid no stress upon it. In my preparations it was noticed in many places, so that it is evidently not simply a casual occurrence. The papule from which fig. 3 was drawn was examined in many sections, and only in one was the connecting link found. The growth apparently spread out like a large tree from a single thin stem, and had that stem been bent instead of straight, or had the growth been cut a little askew, the most careful series of serial sections would have failed to discover it. It is owing, perhaps, to some such accident that none of the excellent observers who have previously examined this affection have met with instances of such direct connection between the epidermis and the growths beneath.

Probably no new growth has in so brief a period of recognized existence been so overwhelmed with names as this one. Every observer has suggested at least one new title, sometimes two, some being fresh creations, others eclectic. The list is curious and instructive :—

Jacquet-Darier : *Hydradénomes éruptifs.*
,, *Epithéliomes adénoides des glandes sudoripares.*
,, *Adénomes sudoripares.*
Török : *Syringo-cystadenom.*
Perry : *Adenoma of the sweat-glands.*
Quinquaud : *Cellulome épithélial éruptif kystique.*
Jacquet : *Epithéliome kystique bénin de la peau.*
Philippson : *Gutartige Epitheliom, verbunden mit kolloider Degeneration.*
Besnier : *Cystadénomes epithéliaux bénins.*
,, *Nævi epithéliaux kystiques.*

To this veritable procession of titles I have ventured to add one more, viz., *Epithelioma adenoides cysticum*, not from any desire of being original, for the name has the advantage of not being new, but as perhaps best expressing the salient features which the growth presents.

Quinquaud and Besnier have raised objections to the employment of the term *epithelioma*, as implying malignancy, and have suggested respectively the term *celluloma* and the adjective *epithelial* (as distinct from *epitheliomatous*), in order to indicate the essentially benign character which distinguishes these tumours. The active and aggressive portion of the invading growth is, however, so purely composed of epithelial cells, that it would seem better, rather than invent a new word, to modify our conception of the term epithelioma, and take from it the connotation of malignancy which it only acquired in the days when non-malignant growths of epithelium, of eruptive nature, were still unknown. We have already become familiar with the use of the word in this sense in the case of the name Epithelioma molluscum, which Virchow applied to the Molluscum contagiosum of Bateman.

The addition of the qualifying adjectives *adenoides*, gland-like, and *cysticum*, serves as a means of special identification. If Bland Sutton's contention is correct, that all carcinomata, the classical epithelioma included, are ultimately of glandular origin, the addition of such an adjective as adenoides would be a pleonasm. No one, however, would confuse even a cylindroma, or tubular epithelioma, with a gland, and yet in the case of this growth the resemblance is so striking that several skilled observers have felt no doubt but that it was a glandular abortion. The resemblance in many of my sections was most marked, the coils and the prolongations surrounded with palisade epithelium having under even a medium-power lens precisely the aspect of glandular elements. A slight indication of this is seen in fig. 7, but much more striking examples might have been taken. The cystic element is so strongly marked, and so characteristic, that no name would be sufficiently representative in which it was not referred to.

All the writers are now unanimous in accepting the embryonic origin of the new cells. The only other available theory would be that which involved the action of microbes, and this is strongly opposed by the chronic and enduring nature of the lesions. My own cases (and the doubtful case referred to by Quinquaud) are the only reported instances in which the affection was met with in more than one member of a family; and the circumstance that the growths commenced in the mother and two daughters at about the same age (10–14 years) point rather to its embryonic and hereditary origin than to any possible action of contagion.

It was suggested by Hoggan that the term Lymphangioma tuberosum multiplex, which Kaposi applied to his unique case,* was an incorrect description of the anatomical conditions which were there presented;

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* *Diseases of the Skin.* Hebra and Kaposi. Sydenham Soc. Edition, Vol. III.

and more recently it has been claimed by Balzer,* Jacquet,† and by Török‡ and Besnier,* that it was really a case of Hydradenoma. There is no doubt a resemblance between the two cases, both in their clinical descriptions and, to some extent, in their pathological aspects, as exhibited, at any rate, in one of the two somewhat coarse woodcuts which accompany Kaposi's article, but so far as I can see there is not sufficient correspondence in the details to warrant their identification from the description alone. A more weighty support of the view, however, has been brought forward within the last few months by the identification by Dr. Lukasiewicz§ (Prof. Kaposi's assistant), of the case described by Lesser and Beneke|| as one of Kaposi's Lymphangioma, as a true example of that disease. There can be no doubt, after reading Philippson's searching criticism,¶ that this really was a case of "Hydradenoma," and it is therefore probable that Kaposi's original case may belong to the same category. It is not stated that Kaposi had seen Lesser's case and identified it with his own, but it is assumed that he was satisfied, from Lesser's clinical description, and from Beneke's account of the microscopic appearance, that the two cases were identical.

Any article on these benign epitheliomata would be incomplete without a reference to Philippson's** clever and interesting attempt to identify them with the colloid milium of Wagner, or colloid degeneration of the skin, as it is named by Besnier. Having had under my care the case described by Liveing,†† to which he refers, a young lady æt. 16, who was affected with undoubted colloid degeneration (and also, quite recently, a similar case, of two years' standing, on the skin near the inner corner of the eye in a lady æt. 30), I was in a position to compare carefully the clinical aspects of the two diseases. And although, by reason of the situation of the lesions in this case, and the patient's social position, it was impossible to excise a nodule for examination,

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* Besnier's Article, *l.c.*, p. 368.

† Brocq, *Traitement des Maladies de la Peau.*

‡ *Annales de Dermatologie*, 1891, No. 2, and *Monatsh. f. prakt. Derm.*, Bd. xiv., 1892, p. 184.

§ *Virchows Archiv.*, 1891, Heft 1.

|| Ueber multiple Dermatomyome (*Archiv. f. Derm. Syph.*, 1892, I.).

¶ *Monatsh. f. prakt. Derm.*, Bd. xii., No. 5, 1891.

** *l.c.*

†† *British Medical Journal*, March, 1886.

it was quite evident that the lesions were totally different from those of hydradenoma. In the benign epithelioma the colloid degeneration cannot be seen as such macroscopically, in the other it can be readily observed to infiltrate the derma, leaving the epidermis intact, and in several instances the sebaceous glands could be distinctly seen lying in the semitransparent mass. Had Philippson seen a case of this condition he would hardly have so strained the description of the two affections as to try and include them under one heading.

There are, too, several very marked differences in the method of growth which he has omitted to notice. The colloid degeneration begins as such, and remains in the form of yellow translucent, gelatinous-looking nodules, unless it undergoes involution, when the whole clears away, leaving scarcely a trace of scarring. The first beginnings of the benign epithelioma are equally distinctive, and whether they consist of simply minute elevations of the apparently normal skin, or of the " little black dots " which Philippson himself describes, they are hardly confusable with the bright yellow vesicle-like points of the original description of colloid degeneration. In neither of my cases of this latter affection were there any lesions which at all resembled those of benign epithelioma, and *vice versâ.* The colloid lesions may disappear, but the epitheliomata, though they may increase in number, never retrogress, even after a duration of many years.

The description of the microscopic appearance of the changes in the colloid degeneration, which he quotes from Balzer, is still more distorted than the clinical accounts of the lesions, in order to reconcile them with those found in the cystic epithelioma. But it is useless to discuss the subject in detail, for Besnier states that it never occurred to Balzer, after having examined both affections with great care, to attempt to establish any connection between them. For in the colloid degeneration the colloid material was infiltrated (as it appears clinically to be) in the fibrillæ of the connective tissue, enveloping the connective bundles and following their direction; and, there were *no epithelial cords,* and *no cysts.* The attempt at identification, ingenious as it was, has therefore failed on both the clinical and histological sides.

Treatment. So far all forms of treatment which have aimed at the resorption of the tumours by means of drugs have proved ineffectual.

Having regard to the limited and benign nature of the growth, destruction or ablation would suggest themselves as the appropriate method. In Perry's case excision answered perfectly. In the French cases electrolysis, the galvano-cautery and the thermo-cautery have been used successfully. Whether these will stop the formation of fresh growths remains to be seen. My own experience is, as yet, too incomplete to allow me to form an opinion on the subject, and with a process of such slow growth, only long and careful watching could give any satisfactory answer to the question.

EXPLANATION OF THE PLATE.

FIG. 1.—Section of a nodule, showing the new growth completely surrounded by normal connective tissue. *a*, Epithelial "tract." *b*, Small cyst. *c*, Mass of epithelial new growth, showing convoluted "tracts," and small foci of colloid degeneration, commencing cysts. *d*, Coating of fine connective tissue which practically capsulates the epithelial new growth. *e*, Two of the finger-like epithelial growths arising from a hair sac. *f*, Normal connective tissue.

FIG. 2.—Section of a nodule showing growth springing directly *a*, from the epidermis and, *b*, from a small hair sac. *c*, Mass of new epithelial growth, showing convoluted tracts and small cysts. *d*, Cysts through which a hair shaft passes. In another section a small young hair was found coiled up in a cyst; such hairs appear to be involved in a mass of new growth. *e*, Mouth of a hair sac involved in the connective tissue covering of a nodule. *f*, Commencing cyst.

FIG. 3.—New growth springing directly from the epidermis. The mass of the growth beneath, which is not here represented, was as large as that in fig. 1.

FIG. 4.—Prolongation from the epidermis, containing a cyst.

FIG. 5.—Cyst lying in the rete, the epithelium below it sends down a prolongation into the corium, containing a commencing cyst. Immediately to the right another direct downgrowth from the epidermis.

FIG. 6.—New growth proceeding directly from the walls of *a*, a Hair sac, *b*, Cyst lined with concentric shales of horny epithelium.

FIG. 7.—A portion of a growth under a higher power, showing *a*, Tube-like coils *b*, Strands of epithelium arranged like vessels, which appear at *f* as if collapsed. They are found always to consist of parallel rows of darkly-stained palisade cells, between which lie epithelial cells of a fainter colour. Some of the thin strands consist only of two parallel rows, in which the cells are arranged more or less transversely to the long axis, and a middle row of faintly coloured, elongated cells, lying in the axis of the strand. If this central line happens to be more transparent than usual, or to have become colloid, the illusion of a central lumen is easily produced. *c*, Commencing cyst, outlines of cells still faintly visible, and nucleus of one cell still stained. *d*, Central confused mass of epithelial cells. *g*, Gland-like prolongation,

Fig 1.

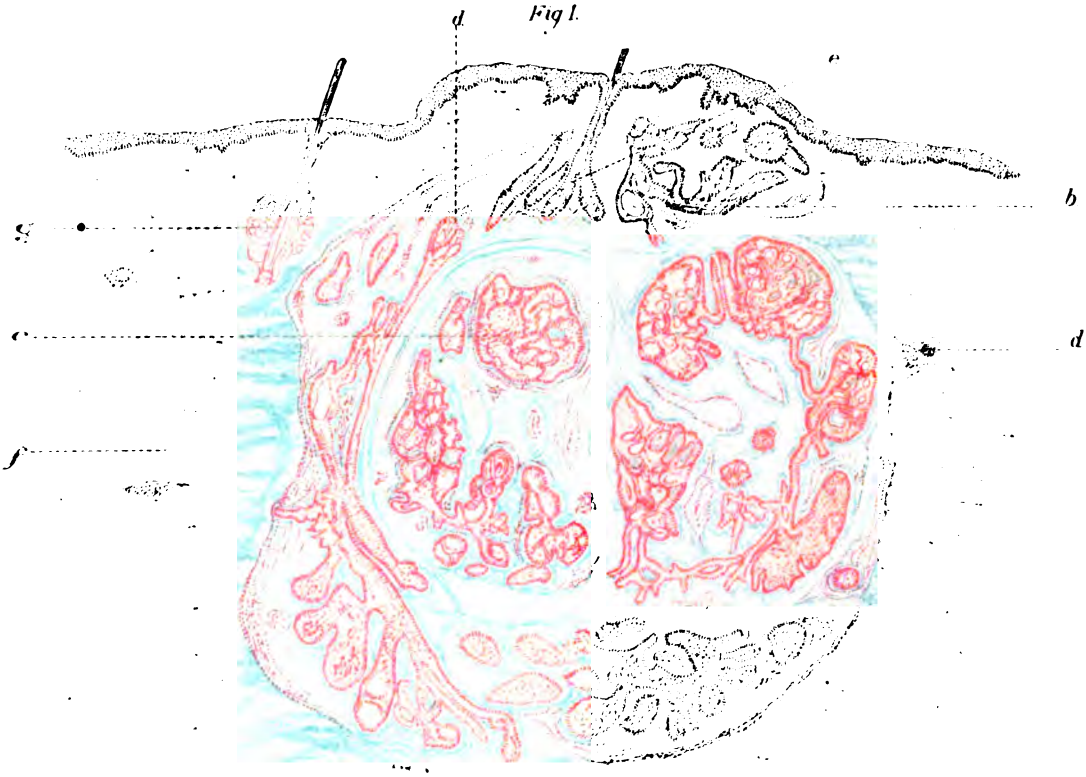


Fig 2

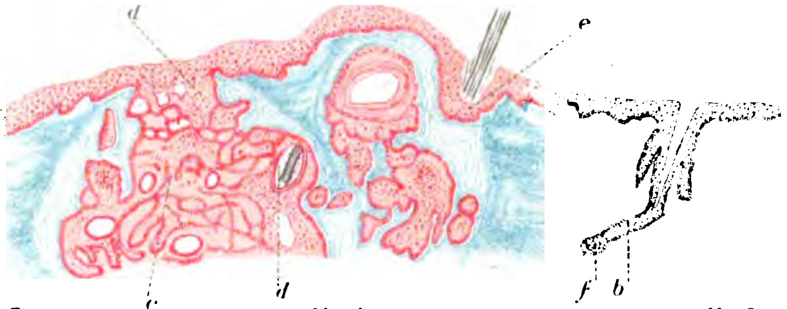


Fig 3

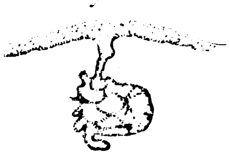


Fig 4

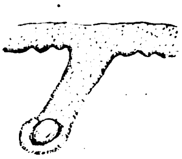


Fig 5

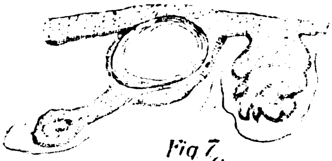


Fig 6

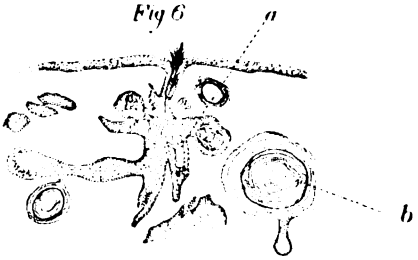
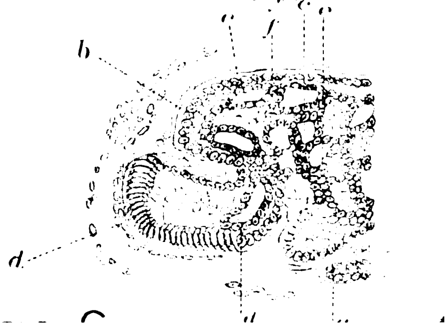


Fig 7



CLINICAL NOTES.

THREE INTERESTING CASES OF BROMIDE ERUPTION.

BY T. COLCOTT FOX.

ERUPTION IN AN INFANT ATTRIBUTED TO VACCINATION, BUT DUE TO POTASSIUM BROMIDE INGESTED WITH THE MOTHER'S MILK.

An infant, aged six months, was sent to me on August 5th, 1892, suffering from an extensive and severe eruption which was supposed by the friends to have resulted from vaccination. The baby had been perfectly healthy from birth, and was vaccinated on June 25th, 1892, in five places. All the inoculations took well and ran a normal course, but, according to the mother's statement, an eruption of watery or mattery spots began to appear on the *ninth day*, and continued to evolve ever since. On August 5th, I observed the cheeks, the arms, and legs to the loins, to be thickly covered with a formidable-looking eruption. On the cheeks there were a few miliary pustules seated on a solid base, and many patches, in size from a split pea to the finger-nail, of confluent or conglomerate pustules, seated on a raised, infiltrated base, and in many cases covered with a dark crust. On the arms and forearms a similar condition of things was observable, and also on the lower extremities from the loins to the ankles. On the legs, however, the eruption was more closely distributed, and confluent into raised patches of considerable extent. Three further modifications of the eruption were to be observed here. A commencing papillary overgrowth was noticeable in some, reminding one of condylomata; and one or two areas were abruptly and considerably raised above the surrounding skin, and presented steep, smooth walls, so as to form veritable tumours, very like some seen in mycosis fungoides. These tumours were superficially ulcerated. On the left buttock was a large irregular hole with brawny infiltrated sides, formed by the sloughing of a subcutaneous mass of inflammatory tissue. Close by was another irregular, solid, subcutaneous mass the size of a half-crown. I think there is no doubt that the latter were not cutaneous gummata. I could not detect any fever, nor was there any marked constitutional disturbance, but the baby was pallid and cried very much. The mother, indeed, was worn out by incessant nursing and fondling of the child, morning, noon and night.

The eruption immediately suggested potassium bromide as a cause, but the mother assured me the baby had never taken any medicine except that given her recently for the relief of the eruption. Further inquiries, however, elicited the fact that the mother had been taking medicine for indigestion since May. This medicine, with the prescription, she brought to me on August 6th, and I found that she had been ingesting about 25 grains of potassium bromide daily since the 16th May, 1892. The medicine handed to me was found by analysis to contain bromide of potassium. The eruption speedily showed signs of involution on the medicine being stopped. On August 8th, I obtained a specimen of the mother's milk, but no bromide of potassium could then be detected in it.

The eruption naturally caused considerable distress to the parents and their friends, and prejudiced them intensely against vaccination. It was, therefore, satisfactory to be able to assure them of the real nature of the disorder, and to stop any further mischief. So ready are people to accuse vaccination, however, that only the rapid disappearance of the eruption on the cessation of the bromide ingestion, finally convinced the friends.

Remarks.—Such cases are not very common, but Tilbury Fox and Shirley Murphy in this country have recorded similar ones, and Dr. Cory, the Director of the Animal Vaccine Institution in Lamb's Conduit Street, to whom by a lucky chance I was able to show the baby, tells me he has seen more than one. The bromide eruption is of sufficiently frequent occurrence and characteristic enough to demand recognition at the hands of medical practitioners, and, at least, ought to excite suspicion as to its nature. This unfortunate baby passed under the observation of no less than four medical men without its ailment being recognized or apparently even suspected.

CONGLOMERATE PATCHES OF POTASSIUM BROMIDE ERUPTION MARGINED BY PUSTULES.

Thomas K., aged nine months, was admitted to the Children's Hospital, Paddington Green, on May 9th, 1892, with an eruption over the face, arms and legs, and with diphtheritic paralysis of the soft palate. The baby had been quite well till five weeks previously, and then had diphtheria. Three weeks before admission the eruption began to evolve on the face and then on the lower extremities. The House Physician noted that the eruption was limited on the face to the cheeks and chin, and on the extremities, mostly to the backs and inner aspects. The spots began as small red papules which vesiculated. They came out in groups, and formed patches the size of finger-nails, with a common infiltrated, raised base, on which numerous pustular points showed. Finally, they became covered with greenish-brown crusts.

Remarks.—I was asked to report upon the case and had no difficulty in diagnosing bromide of potassium eruption. I mention the case for the following reason :—When I saw the baby, the conglomerate patches were covered with thick crusts, but the borders were encircled with a ring of little pustules. As this was common to nearly all the patches a peculiar appearance was produced, which might mislead the inexperienced. From subsequent inquiry, we learned that five weeks previously the baby had a convulsion for which "small doses" of bromide of potassium were exhibited. *This treatment was only continued for a day or two and stopped with the onset of the diphtheria,* so that the eruption appears to have commenced about a fortnight after the drug was stopped.

TUBEROSE ERUPTION DUE TO BROMIDE OF POTASSIUM.

Ernest H., aged ten months, was brought to me at the Paddington Green Children's Hospital, on May 4th, 1889, with the following history. The child had been under treatment for "fits" for six months, the last "fit" occurring two months previous to my seeing the child. The treatment had been continued on and off the whole of the time, even after the cessation of the fits. The eruption began as pustules two weeks before I saw him. On the 4th May, I noted that the smallest lesions were varicelliform pustules, which increased peripherally to the size of a cherry, and then resembled dome-shaped pemphigus bullæ, but the contents were thick and cheesy. When the bulla-like lesions ruptured they were seen to be in reality solid papillomatous growths. One or two on the legs, near the ankles, had attained the size of a walnut, and one was 1½ in. by 1in. in diameter. There was not the usual aggregation of pustules in confluent masses, but the lesions were fungating tumour-like masses, and some might have been characterized as anthracoid. The eruption was distributed on the lower extremities, the trunk, arms and head. On the side of the nose there was a typical varicelliform pustule. I ascertained that the child had not taken any iodide of potassium, but that on April 7th a mixture containing ipecacuanha, chloric ether, syrup of poppies, and bromide of potassium was given. The child took, up to the 18th April, *i.e.*, in eleven days, about half an ounce of bromide of potassium in five-grain doses. No more of this drug was given after this date, and the eruption commenced to disappear a few days later.

Remarks.—This case is interesting for its severity and for its approximation in character to certain iodide eruptions. One or two of these bulla-like lesions may be occasionally seen mixed with other lesions in cases of bromide of potassium eruption, but here the majority of the lesions gradually went through this phase. The semi-solid contents and the underlying infiltration and fungation, are also characteristic of some phases of iodide eruption. The tuberose form, I think, very rarely results from the ingestion of the bromide.

CURRENT LITERATURE.

FOUR CASES OF DARIER'S DISEASE. (With three Plates.) *Archiv für Dermatologie und Syphilis.* 1891, xxiii., p. 857.

Boeck describes four cases of Darier's "Psorospermose folliculaire Végétante," or the Keratosis follicularis of White.

The first case occurred in a robust man twenty-seven years old, and had commenced when he was ten years old, on the head. The eruption affected a considerable portion of the skin of the trunk, especially the back, the abdomen, from the navel to the pubes, the back and front of the neck, and the sternal region, and consisted of papular efflorescences, covered more or less with epidermic masses, and sometimes confluent into larger patches. On removing the epidermic masses, a moist surface with elongated papillæ appeared. The scalp was also covered with warty masses, and thick fatty crusts, having almost the appearance of seborrhœic eczema. The backs of the hands and feet showed similar papular efflorescences, but covered with very firm and solid epidermic masses. The nails were also affected in a peculiar manner, being thickened, longitudinally striated, and somewhat brittle at the margins. The man had been under observation for several years, and though his condition was somewhat improved by treatment in the hospital, he soon relapsed.

The three other cases were in the same family, viz., a father, aged forty-seven, and his two sons, aged eighteen and fourteen respectively. The disease commenced in the father at the age of sixteen, in the sons at eleven and eight. Two of the cases were perseveringly treated, but without permanent benefit.

All these cases agreed generally with each other and with the first case, in the local distribution of the eruption which affected more especially the scalp, the forehead, the axillæ and inguinal regions, the lower part of the abdomen, the spinal regions, the backs of the hands and corresponding parts of the feet. Boeck thinks that in general those parts of the skin are most affected where perspiration is abundant, and where the sweat tends to accumulate.

In all of them it began on the head, *i.e.*, the scalp, the forehead, or the ears; and all the nails were more or less affected, even when the neighbouring parts of the skin were quite free.

The general health of all the patients was good. The disease began, as in most observed cases, in childhood or youth: and its duration was apparently not limited, except by the life of the patient, since no permanent improvement, either spontaneous or under treatment, was observed.

The results of microscopical examination shows, as Boeck maintains, that the disease is originally one of the epidermis, which undergoes hyperplasia, combined with premature and irregular keratosis of the cells, which is seen, especially in the interpapillary processes of epidermis, and at the mouths of the hair-follicles, rarely around the orifices of sweat-glands. The interpapillary processes tend to pass downwards into the corium, and the papillæ of the latter may be elongated, but the latter is a secondary process.

He has given particular attention to the large round cells described by Darier as coccidia, which he finds abundantly in the altered epidermis, and arrives at the conclusion that they are only epidermic cells which have undergone an abnormal process of keratosis, accompanied by hypertrophy: the nucleus being in most of them distinctly traceable. He holds the same opinion about the smaller round or oval homogeneous bodies contained in the epidermic crusts, called by Darier "grains"; finding gradations between them and the larger cells before described. The resemblance between the supposed coccidia and the peculiar bodies found in molluscum contagiosum is merely illusory, the latter beginning distinctly within the cells, while the former are never really intracellular. While, therefore, Boeck is disposed to believe that molluscum contagiosum is a parasitic disease, he altogether denies the character to Darier's disease. On the whole, he thinks the affection most resembles a "Verrucosis," and clinically it has much resemblance to some form of warts, as is particularly evident in the papillary growths of the backs of the hands and feet in his cases.

J. F. P.

PITYRIASIS RUBRA PILARIS. By Dr. GALEWSKI, DRESDEN. (*Transactions of the German Dermatological Society*, Congress III., held at Leipsic, 1891.)

DR. GALEWSKI at the outset alluded to the unsettled question of its identity with lichen ruber acuminatus, and then by means of two cases illustrated the leading points of difference insisted upon by those who regard the diseases as distinct. The first case was that of a young man ætat. 20, who had a papular eruption (best seen on the extensor aspect of the extremities), affecting the whole integument with the exception of the flexor surface of the joints, the back of the hands and feet, and dorsal surface of the second phalanges. The skin everywhere felt harsh like a nutmeg grater. That of the face, and of the hairy scalp was branny; the eyebrows were thin; the palms and soles were covered with dense thick yellow skin furrowed by deep cracks; the nails were brittle and misshapen.

A typical efflorescence consisted of a reddish-brown, elevated papule occupying the site of a hair-follicle; a stumpy hair might be present, and a branny scale covered the apex of the papule. By means of the finger-nail the horny globe forming the greater part of the efflorescence could be dug out, leaving a moistened pit which did not bleed.

The cervical and inguinal glands were enlarged; no irritation, but a feeling of tension at times, was complained of; the mucosæ were quite free. No family history of a similar affection. General health good and internal organs healthy.

Treatment.—Internally, arsenic in pill form, in increasing doses; externally, a week of 10 per cent. chrysarobin ointment, followed by a lead ointment and prolonged baths. This was continued for a month, when suddenly the papules began to redden and show a marked sheen, the skin became infiltrated, and the case looked like one of lichen ruber acuminatus.

Arsenic was pushed hypodermically, the baths taken more frequently, and salicylic ointment well rubbed in after the latter.

Marked improvement followed the use of the salicylic ointment; the rash still lingered on the arms and thighs; chrysarobin ointment finally subdued this. The patient was exhibited at the meeting, having been three months under treatment. The skin was soft, the callosities of the palms and soles diminished two-thirds in thickness, the nails smoother, the horny globes, much less numerous, were on a level with the circumjacent skin, and little depressed scars, the sites of hair-follicles, could be seen here and there on the arms, thighs, and chest.

The second case was that of a patient ætat. 40, who stated that three weeks before admission he never had any skin trouble. No family history of any skin disorder.

Status præsens.—The skin of the trunk from the margin of the hairy scalp to the level of nipples anteriorly, and to the anus posteriorly, and of the upper extremities down to the elbows was thickened, red, and covered with scales. The face was especially wrinkled and furrowed, and dusted over with branny scales. Eyebrows thin, defluvium capillitii. The hair-follicles everywhere, especially on extensor surfaces, showed thick conical horny papules, confluent where the hair-follicles are close, elsewhere discrete, and passing insensibly into the surrounding scaly skin. Palms and soles fissured and greatly thickened, nails brittle. Great itchiness prevented sleep and worried the patient considerably. Mucosæ quite free. Internal organs healthy, general condition upset owing to the irritability of the integument.

Treatment.—Sedatives internally to allay the nerve symptoms; externally sublimate and carbolic acid ointments, and frequent baths.

During the first two weeks he became febrile, and had a sharp attack of urticaria. He was then placed on arsenic, and local applications (ointment and baths) were stopped. In the course of a fortnight the papules began to disappear and irritability diminished, and after two relapses in the course of six months, during which arsenic was regularly administered, he was discharged cured, *i.e.*, the efflorescences were only shown by slight brown pigment stains, no scars or pits. When seen again six months later the patient was quite well. Several papules were excised, and in both cases the microscopic features were the same: slight hypertrophy of the rete mucosum and inter-papillary processes; stratum granulosum atrophied in some places, hypertrophied in others; the horny layer greatly increased in thickness. The horny globes occupied the infundibuliform orifices of hair-follicles and sebaceous glands, rarely those of the sweat-glands, and then the duct could be distinctly seen in several cases permeating the horny mass. Cystiform dilatation of the sweat-duct below the horny globe (Besnier-Jacquet) containing cell-detritus was not observed anywhere in spite of careful search. In some sections twin horny globes (Boeck) were seen. Changes in the hair were not noticed, and fresh formation of horny cells was evident where the hair and horny globes had fallen out.

The corium showed practically no change in the fixed connective tissue cells; here and there slight small-celled infiltration in the vicinity of the blood-vessels, no increase in pigment or in the fibrous elements.

In short, a large increase in the horny cells occupying the orifices of the hair-follicles and sebaceous glands, a hyperkeratosis was the characteristic feature of the papules in both cases.

In lichen ruber planus, on the contrary, the corium changes are primary and inflammatory in nature, the epidermic being quite secondary.

Comparing the two cases, Dr. Galewski considers the first to be a typical one of pityriasis rubra pilaris from its clinical course, the absence of any constitutional disturbance, its resistance to arsenic, its gradual disappearance without pigmentation, the site of the eruption and its microscopic characters.

It is thus easily differentiated from lichen ruber acuminatus, icthyosis, pityriasis rubra (Hebra), psoriasis and keratosis pilaris (Brocq). It approaches the latter in leaving pitted scars behind, due to the pressure of the horny globes and not to chronic circumpilary inflammation as in Brocq's keratosis pilaris.

Similar pits are seen in keratosis pilaris facialis (folliculitis rubra, Wilson, and ulerythema ophryogenes, Taenzer), and in folliculitis decalvans. Dr. Galewski considers that similar keratopoietic changes are at work, but admits the necessity of further investigation.

The second case Dr. Galewski regards as corresponding to one of lichen ruber acuminatus running a benign course. The clinical course favours this diagnosis, the general disturbance of health, and the beneficial effect of arsenic. On the other hand, the relatively short duration of the eruption, and especially the microscopic characters, bring it within the scope of pityriasis rubra pilaris. He admits the difficulty of diagnosis in this case, although easily differentiated from psoriasis, pityriasis rubra (Hebra), keratosis pilaris, icthyosis follicularis, and lichen planus (Wilson).

Finally, Dr. Galewski sums up :—I. The lichen ruber of Robinson and Taylor is the same as pityriasis rubra pilaris of Devergie, Richaud and Besnier, and this disease includes the benign forms of lichen ruber acuminatus (Kaposi).

II. Pityriasis rubra pilaris is an exfoliative hyperkeratosis, and must be carefully distinguished from lichen planus (Wilson).

III. The typical lichen ruber acuminatus (Hebra-Kaposi) is a disease *sui generis*.

IV. That in any doubtful case arsenic should be administered, and that the best local treatment is the application of salicylic acid ointment after prolonged baths, and of chrysarobin ointment at intervals.

In the discussion that followed, Prof. Neisser said that the models of pityriasis rubra pilaris shown at the Paris Dermatological Congress he had regarded as examples of lichen ruber acuminatus, and felt how much better the latter term typified the affection. Since then he had altered his opinion, and believed that the two affections were quite distinct: the one hyperkeratotic, the other inflammatory in nature. He thought keratosis follicularis rubra a preferable term to pityriasis rubra pilaris.

Dr. Galewski's second case roused again doubts in his mind. Clinically it was a case of lichen ruber acuminatus, microscopically one of pityriasis rubra pilaris.

Prof. Kaposi referred to the opinion expressed by him at the Paris Dermatological Congress, viz., that the two diseases were the same, and that pityriasis rubra pilaris was modified lichen ruber acuminatus occurring in the hair-follicles. In answer to Prof. Neisser, he admitted that such cases as Dr. Galewski's second one would be examples of keratosis if they could not be included under the head of lichen ruber acuminatus.

Dr. Blaschko (Berlin) regarded the two affections as quite distinct. He viewed lichen pilaris, when especially well marked on the face, as identical with Taenzer's ulérythema ophryogenes. He considered that keratosis *sive* lichen pilaris, icthyosis follicularis—recently described by Darier and others as psorospermosis cutanea—and pityriasis rubra pilaris should be all brought into the same category, viz., follicular keratoses or parakeratoses, in spite of ætiological and clinical differences. For the leading feature of each affection was—disease of the hair-follicles resulting in excessive cornification.

Dr. Von Sehlen (Hanover) combated the idea that lichen pilaris facialis was the same as ulerythema ophryogenes. The former was simply hyperkeratosis, the latter essentially inflammatory in nature, ending in well-marked cicatrization and originating in the glabella; hence the name of the affection.

FRANK H. BARENDT.

A CASE OF PSEUDO-LEUCÆMIA WITH MULTIPLE TUMOURS OF THE SKIN, MUCOSÆ, AND MUSCLES. DR. ARNING, Hamburg. (*Transactions of the German Dermatological Society*, Congress III., held in Leipsic.)

Pseudo-leucæmia is the term applied to Hodgkin's disease or lymphadenoma by the Germans. The patient, a young girl, ætat. 14, was sent to Dr. Arning with the diagnosis "lupus nasi." There was a history of tuberculosis. The growth began some four years previously, attacking the apex of the nose first, spreading gradually to the septum and alæ. During the last two years it had increased considerably in size. On examination, the tumour had a waxy, transparent look, it had never ulcerated, there were no lupus tubercles to be felt, it was firm and painless. Further, there was a similar tumour near the margin of the left upper eyelid, of the size of a split pea; it had developed during the previous six months. Two nodules were situate at the junction of mucosa and skin of the lower lip on the right side, and two on either side of the middle line of the hard palate, and a group around the base of the uvula. There was no surrounding inflammatory thickening, the nodules were indurated and painless. Teeth, gums, buccal, faucial and laryngeal mucosæ were quite sound.

Similar subcutaneous tumours could be made out in the skin of the face, neck, and upper extremities, varying in size and consistency. The buttocks and lower extremities were quite free. Heart's action exceedingly rapid, at times severe palpitation, systolic murmur, accentuated second sound in pulmonary area. These symptoms, together with the subcutaneous nodules, like those described by French and English writers as occurring in rheumatism, rather favoured that diagnosis. There was, however, no history of rheumatism, and palpitation had existed for some years; moreover, the heart was not enlarged. The lungs were normal. The urine was scanty, and at times a trace of albumen present. Rest in bed and application of ice reduced the pulse from 120 to 90, and a three weeks' course of mercury was prescribed owing to the possibility of the growths being syphilitic; no improvement followed. A ten per cent. pyrogallic acid ointment was applied to the nasal swelling, this rapidly broke down; the nose healed with little disfigurement and the patient went home. Three weeks afterwards she returned with all her former symptoms aggravated. The nose showed a similar growth, and the subcutaneous swellings could be easily distinguished from more deeply-seated ones. The former threatened to break through the skin. Muscular movement was not impeded by the situation of the latter, and there was no pain.

Abdominal examination revealed an immensely hypertrophied spleen, which could be perceived through the thin abdominal parietes. The splenic notch was easily felt in the umbilical area; the whole organ was smooth and firm. With the exception of a finger's breadth in the left inguinal region, the whole left side was dull, and the dulness extended to the mid-abdominal line. Malaria was excluded. Tuberculin was now injected three times (·001grm., ·005grm., ·01grm.); no reaction followed. No enlargement of the lymphatic glands. The blood was quite normal —no increase of leucocytes, no aberrant forms of corpuscles were present, and no organisms could be detected.

Treatment.—The nasal tumour was removed by a Volkmann spoon, and afterwards the site was thoroughly cauterized. Arsenic was given hypodermically in increasing doses. Improvement was marked; the spleen was reduced by one half its former size; everywhere the little swellings had greatly diminished—some had disappeared completely. There was pigmentation of the former sites, the result of the arsenic, doubtless. The cervical nuchal glands had become slightly enlarged. Her general condition was better, although the heart's action was still frequent, and traces of albumen were present from time to time. The case was still under observation.

A subcutaneous nodule and an intra-muscular swelling were excised. *Microscopically,* they were firm and yellowish, the former circumscribed, the latter diffuse; no sign of breaking down or softening.

Microscopically.—The whole cutis was pervaded by a small, round-celled mass, apparently originating in the neighbourhood of the sweat-glands and of the larger blood-vessels, the walls of which were thickened. The neoplasm extended to the papillary layer, and in some places had invaded the rete mucosum. There were no giant-cells; caseation was absent, and there was no sign of cicatrization or of any inflammatory process. The intra-muscular preparations showed the round-celled formation permeating and disintegrating the muscle fibre; no sign of any inflammatory, still less of any necrotic, process. Bacilli could not be detected in either series of sections.

Dr. Arning regards the case as of a sarcomatous nature, quite different to the multiple sarcomatosis cutis of Kaposi, but probably on account of the splenic hypertrophy more closely allied to pseudo-leucæmia. The results of the treatment by arsenic justify the latter view.

On the other hand, the general symptoms do not agree with pseudo-leucæmia, and the local, by the absence of prurigo-like papules, differentiate it from the pseudoleucæmia cutis first described by Dr. Joseph, and of which Dr. Arning had seen a case. He thought the above case unique.

FRANK H. BARENDT.

THE SECOND INTERNATIONAL DERMATOLOGICAL CONGRESS.

In addition to the papers already announced, the subjects of which were determined by the Committee of Organization, the following communications will be read :—

Drs. Besnier and Hallopeau (Paris): A Contribution to the Study of Mycosis Fungoides.

Dr. Besnier (Paris): On Prurigo.

Drs. Fournier and Feulard (Paris): Statistical Studies on the Etiology of Syphilis.

Prof. Doutrelepont (Bonn): On Tuberculosis of Skin and Mucous Membrane.

Prof. Schwimmer (Buda-Pesth): On the Occurrence of Albuminuria in Syphilitic Affections.

Dr. Riehl (Vienna): (1.) Leukæmia Cutis. (2.) On Multiple Endothelioma of the Skin.

Dr. Mracek (Vienna): On Syphilis of the Heart.

Dr. Ehrmann (Vienna): On the Anatomy and Physiology of the Pigment of the Skin.

Prof. Chiari (Vienna): On Pemphigus of the Larynx.

Dr. Havas (Buda-Pesth): On Micro-Organisms in Mycosis Fungoides.

Dr. Ullmann (Vienna); On the Localization of Mercury in Animal Tissues.

Prof. Störk (Vienna): On Syphilis of the Nasal Mucous Membrane.

Dr. Leslie Roberts (Liverpool): On Tinea Tonsurans.

Dr. Hans von Hebra (Vienna): Subject not yet announced.

Dr. Grünfeld (Vienna): Endoscopy.

Prof. Neumann (Vienna): On New Leprosy Colonies in Europe.

Dr. Barthélemy (Paris): (1.) Dermographism. (2.) On the Long Duration of the Contagiousness of the Secondary Period in certain Cases of Mild Syphilis.

Dr. S. Rosalimos (Athens): On Fever in Syphilis.

Mr. Jonathan Hutchinson (London): Demonstrations. (1.) Infective Angiomata. (2.) Eruptions produced by Summer and the Influence of the Sun. (3.) Recovery from Xanthoma Diabeticorum. (4.) Melanosis in connection with Lentigo Senilis.

Prof. Pick (Prague): The Etiological and Pathological Relations of the Dermatohyphomycetes.

Dr. Welander (Stockholm): (1.) Researches on the Absorption and Elimination of Drugs after Inunction Treatment. (2.) On the Treatment of Syphilis with Mercurial Ointment.

Dr. Bulkley (New York): Subject not yet announced.

Prof. Lewin (Berlin): On Medicinal Rashes from the Pharmacological standpoint.

Dr. Eraud (Lyons): On the Soluble Products secreted by a Microbe of Blennorrhagic Pus.

Dr. Baldomar Sommer (Buenos Ayres): On Lupus Erythematosus.

Mr. Balmanno Squire (London): On Rhinophyma and a New Method of Operating for its Removal.

Dr. Emanuel Kohn (Vienna): The Contagious Skin Diseases of Children and their Relationship to School Hygiene.

Zambaco Pasha (Constantinople): On Leprosy.

Dr. Hugo Schindelka (Vienna): On the Skin Diseases of Domestic Animals.

Dr. P. Aubert (Lyons): (1.) Researches on Sweat and Sebaceous Secretion. (2.) Treatment of Lupus by Aqueous Mercurial Solutions.

Dr. Ludwig Schuster (Aix-la-Chapelle): Observations on Reinfection.

Dr. Finger (Vienna): (1.) On the Pathological Anatomy of Urethritis Chronica Posterior, and of Blennorrhagic Chronic Prostatitis (with Demonstrations and Histological Preparations). (2.) A Contribution to the Etiology and Anatomy of Multiform Erythema (with Demonstrations and Histological Preparations).

Dr. Max Joseph (Berlin): On Angiokeratoses, with Microscopical Specimens.

Dr. Zeferino Falcao (Lisbon): On Leprosy in Portugal.

Dr. Max von Zeissl (Vienna): On the Innervation of the Bladder.

Dr. Karl Szadek (Kiew): On the Treatment of Syphilis.

Dr. Karl Berliner (Aix-la-Chapelle): On Primary Cheloid.

Dr. K. A. Herzfeld (Vienna): Contribution to the Study of Gonorrhœa in Women.

Dr. Alfred Staub (Posen): On Pemphigus Puerperalis and Pemphigus Neonatorum.

Dr. Martin Chotzen (Breslau): (1.) Alumnol, a New Remedy for Skin Diseases and Gonorrhœa. (2.) A Contribution to the Treatment of Gonorrhœa. (3.) Microscopic Demonstrations.

Dr. Robinson (New York): On Dysidrosis.

Prof. Janovsky (Prague): Further Endoscopic Contributions to our knowledge of Gonorrhœa in Women.

Dr. S. Pollitzer (New York): (1.) On the Histology of Herpes Zoster. (2.) On Urticaria Perstans. (3.) Ozonol in Dermal Therapeutics.

Dr. K. Touton (Wiesbaden): (1.) Contribution to our knowledge of Gonorrhœa of the Small Skin Glands on the Penis (with Demonstrations). (2.) Gonococci in the Tissue of the Glands of Bartolini (with Demonstrations).

Dr. A. Lang (Moscow): On a New Procedure for the Staining of Gonococci.

Prof. Hardy (Paris): A Glance over the Present State of Dermatology.

Dr. S. Lustgarten (New York): (1.) A Clinical Observation on Molluscum Fibrosum. (2.) Gangræna Cutis Hysterica. (3.) The Osmium Reaction of Skin Pigment.

Dr. Leopold Glück (Sarajevo): On the Commonest Skin Diseases of Austria-Hungary.

Dr. Edmund Saalfeld (Berlin): A New Dermato-Therapeutical Preparation.

Prof. de Amicis (Naples): (1.) On Psorospermosis of the Skin. (2.) On a Case proving the existence of True Trichoma.

Dr. Barduzzi (Siena): (1.) Angiomelanosis Lenticularis Progressiva Cutis. (2.) Syphilis ab Conceptione. (3.) Syphilis Heriditaria Tarda.

Prof. Mibelli (Sassari): On the Histology of Favus.

Dr. Scarenzio (Pavia): On the Specific Action of Mercury in Syphilis.

Dr, Breda (Padua): On Erythema and Micro-Organisms of Mycosis Fungoides.

Dr. Giovannini (Turin): On the Histological Changes in Syphilitic Alopecia.

Dr. Soffiantini (Pavia): Skin Therapeutics.

Prof. Tommasoli (Modena): Report on Hypodermic Injections of Blood Serum of Lambs in some Infectious Skin Diseases, especially in Syphilis.

Dr. Ciavvochi (Rome): (1.) On Dermatomycosis Favosa. (2.) On Bromide Rash in Persons suffering from Nervous Disease.

Dr. Kollmann (Leipzig): The Latest Improvements in Electro-microscopic Apparatus, and their Therapeutic Employment.

Dr. Vineta-Bonaserra (Barcelona): The Treatment of Ringworm and Favus with Naphthol.

Dr. Romniceano (Bucharest): The Different Forms of Infantile Syphilis observed at the Children's Hospital from 1874 to 1892.

Dr. Petrini de Galatz (Bucharest): (1.) On the Cause of Death in a Case of Generalized Lupus Erythematosus; (2.) Pemphigus Malignus; Description of the Lesions found in Three Cases, with Microscopical Specimens; (3.) Is the Employment of so-called "Mixed Treatment" indispensable in Tertiary Syphilis.

Prof. Schwenninger (Berlin): (1.) On the Employment of Local Heat in Skin Diseases. (2.) Remarks on Tumour Formation in the Skin.

Dr. Louis Török (Buda-Pesth): On the Protozoa-like Structures in Cancer.

Houlky-Bey (Constantinople): The Therapeutic Value of Subcutaneous Injections of Mercury.

Dr. Colcott Fox (London): Subject not yet announced.

Dr. Alfred Eddowes (London): (1.) Impetigo. (2.) Demonstration of Cultures of Favus, Ringworm, and some Rarer Diseases of the Skin.

Dr. E. Ludwig (Vienna): On the Demonstration and Localization of Mercury in the Skin after its Inunction.

Dr. Jessner (Konigsberg): On the Growth of the Favus Fungus.

Dr. Aug. Ducrey (Naples): (1.) On the Cultivation of the Leprosy Bacillus. (2.) On a Rare Form of Ichthyosis.

Dr. Marius Oro (Naples): (1.) Histological and Bacteriological Examination of the Central and Peripheral Nervous System in a Case of Leprosy. (2.) Histological and Bacteriological Examination of Two Cases of Pemphigus Vegetans.

Drs. Ducrey and Oro (Naples): Contribution to the Pathogenesis and Histology of Acuminate Condylomata.

Dr. Radcliffe-Crocker (London): (1.) Dermatitis Repens. (2.) Adenoma Sebaceum. (3.) Acne Scrofulosorum.

Dr. A. Konried (Vienna): On Quantitative Changes of the Constituents of the Blood in Syphilis.

Dr. J. H. Rille (Vienna): On Morphological Changes of the Blood in Syphilis and some Dermatoses.

Dr. E. Schiff (Vienna): (1.) On a Particular Form of Dermatitis Ulcerosa. (2.) On the Employment of Hydro-therapeutic Treatment in Skin Diseases.

Dr. Krowiczynski (Lemberg): Experiments on the Prophylactic Treatment of Syphilis.

Prof. Haslund (Copenhagen): Alopecia Leucodermica.

Prof. Leloir (Lille): (1.) The Treatment of Syphilis. (2.) On Pemphigus.

Dr. Barbe: The Differential Diagnosis of Pulmonary Syphilis and Pulmonary Tuberculosis.

Dr. Perrin (Marseilles): (1.) Case of Colloid Degeneration of the Skin. (2.) Case of Trichinosis in a Man.

Dr. Brocq (Paris): (1.) Some Remarks on Pruriginous Dermatoses and the Lichens. (2.) Remarks on the Alopecias of the Seborrhœic and of Keratosis Pilaris.

Drs. Brocq and Jacquet (Paris): A Rare Form of Superficial Cutaneous Tuberculosis.

Dr. Verchère (Paris): On Syphilis "*d'emblée.*"

Prof. Von Düring (Pera): On Leprosy.

Dr. Vidal (Paris): On Hebra's Prurigo.

Dr. Gaucher (Paris): (1.) The Metastases of Psoriasis. (2.) The Cure of certain Rare Cases of Tertiary Syphilis.

Drs. Feulard and Djelaleddin Mouhktar (Paris): Statistical Studies on Unrecognized Syphilis.

Dr. H. Feulard (Paris): The Question of Tinea in France from 1886 to 1892.

Dr. Joannu (Athens): (1.) On Syphilis among the Ancient Greeks. (2.) On Syphilis in Greece, and a Special Form "Spyrokolon."

Dr. Cehak (Vienna): On the Treatment of Syphilis with Hydrargyrum Sozojodolicum.

Dr. A. Ravogli (Cincinnati): Mucous Patches.

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SECOND INTERNATIONAL DERMATOLOGICAL CONGRESS,

HELD IN VIENNA, SEPTEMBER 5TH–10TH, 1892.

GREAT as was the success of the first International Dermatological Congress, held in Paris in 1889, which almost precluded the possibility of an equally successful reunion elsewhere, it is an especial pleasure to record the brilliant results, both scientific and social, of the second International Congress just held in Vienna. Owing to the world-wide eminence which this city has acquired as a centre of dermatological learning and instruction, and to the number and distinguished position of the alumni of its university throughout the world, it was pre-eminently indicated as the rallying point for all dermatologists, and as the city which could best compete with and emulate the glories and traditions of Paris and its Hôpital St. Louis.

Despite the spread of the epidemic of cholera (to which the absence of several notable dermatologists was due), and the difficulties in travelling thereby entailed, no less than 300 members from all parts of Europe enrolled their names and appeared in person at the meetings. This number, which actually exceeded what was considered the phenomenal number enrolled at Paris, testifies most satisfactorily to the increasing recognition of the importance of the science of dermatology, and to the interest with which it is followed not only by those who devote themselves more exclusively to the study of this branch of medicine, but also by others who recognize the intimate bond of connection between the study of diseases of the skin and that of general medicine.

A preliminary meeting of a social character was held at the Kaiserhof on the evening of September 4th. The members were heartily welcomed by Professor Kaposi, the president, and the other representatives of the committee of organization, and a pleasant opportunity was offered for the renewal of old and the formation of new friendships between men of all countries and speeches. Not the least pleasing feature of an entertainment such as this is the facility afforded to men known to one another hitherto only through the medium of their written works, of forming, with the congenial concomitants of lager beer and tobacco, direct personal acquaintance, which tends so much to the better understanding of differences of personal opinion, and to the neutralizing of international prejudices.

The first general meeting took place the following morning (September 5th) at 9 A.M., under the presidency of Professor Kaposi, and the auspices of the sections chef, Rittner, who greeted the Congress in the name of the Government. Similar duties were gracefully performed by Bürgermeister Dr. Stenzl, on behalf of the town, and by Professor Neumann on behalf of the Vienna Dermatological Society.

Professor KAPOSI, in his introductory address, alluded to the brilliant success of the first Congress held in Paris, and feared, that shorn as this Congress was, of the additional attractions of a Universal Exposition and of the interest offered by the Hospital of St. Louis and its unique museum, the present Congress could hardly hope to attain to so high a level of general excellence. Nevertheless he asserted that the whole of the professoriate and profession of Austro-Hungary had united in an endeavour—which they regarded as a patriotic duty—to ensure that the present Congress should equal its predecessor from the point of view of practical utility. He then referred to the broad and catholic spirit which now pervades the science of dermatology, and which such cosmopolitan meetings had so powerfully tended to engender. Then addressing the foreign members in French and English, he thanked them for their friendly co-operation, and assured them of the desire of the executive committee to do all in their power for their comfort and entertainment.

Dr. Riehl (Vienna), the Secretary-General, briefly related the history and programme of the Congress, paying a special tribute to Dr.

Feulard, the Secretary of the Paris Congress, for much valuable assistance.

The actual business of the Congress was begun by a retrospective address by Professor HARDY of Paris, the learned *doyen* of French dermatology, on "The Present Position of Dermatology." He remarked that this science is only a century old, although the first steps were previously laid by Plenck in Vienna and Lorry in France. The peculiar fact is that with these authors is found the essential differences between the two schools, the one of which recognizes mainly local, and the other internal causes as the exciting factors in the causation of diseases of the skin. Succeeding these, Willan and his pupil Bateman did much to clear the way for subsequent investigators. At the beginning of the present century the school of St. Louis included such distinguished men as Alibert, Rayer, Gibert, Biett and Cazenave, who may be said to have founded the science of dermatology as we at present understand it. The next stage in the history of the science is marked by the names of Bazin, Hebra, and Erasmus Wilson. More recent advances have, perhaps, been due to the establishment of special hospitals, or special wards in general hospitals, of laboratories for microscopical and bacteriological research, and in no small measure to the perfection of our methods of illustration by models, photographs and coloured drawings. He then referred to recent discussions on the forms of lichen, pemphigus, folliculitis, &c., the points of which it would be impossible to reproduce without a verbal reproduction of the details into which the speaker entered. With regard to treatment, he contrasted with the older methods, which chiefly depended upon the employment of internal remedies, the more modern methods of procedure, many of them surgical, *e.g.*, scarification, skin-grafting, electrolysis, electrocauterization, &c., and made a brief reference to the numerous new drugs, chiefly of an antiparasitic nature, which had been recently introduced. Finally, the learned professor criticized somewhat severely the present chaos which existed in the classification and nomenclature of skin diseases, and indicated that the proper path to pursue was that followed by Bazin and himself, namely, to establish a classification founded upon the true etiology and essential nature of the morbid conditions.

The first subject announced for discussion by the committee was that of *Leprosy*, more especially its distribution and social bearings in Europe. It was introduced in a paper by Dr. ARNING of Hamburg, which, in his unavoidable absence, was read by the Secretary-General. The main conclusions indicated in his address were summed up as follows :—I. Leprosy is a chronic infectious disease, limited to mankind, and is conveyed directly and indirectly by the *bacillus lepræ*. II. The importance of this disease for Europe must not be underrated. III. Besides the old European seats of leprosy new endemic centres have recently developed in this continent (*e.g.*, Lithuania). IV. The conditions under which leprosy holds its old ground and develops new endemics, are not yet clearly understood. Filth and poverty can no more be made exclusively responsible than a particular kind of food. V. Old European centres must be strictly controlled and watched in regard to nationality, increase and decrease of cases, and peripheral spread of disease-focus. VI. Leprous patients who come from European or foreign centres of infection and settle in non-leprous parts of Europe, must be registered by the sanitary authorities and controlled as to their nationality, household and changes of residence. Such registration should be conducted on international principles. VII. Should the disease have established a new footing of endemic type anywhere in Europe, then, but not before then, strict segregation in asylums or colonies should at once be resorted to. A similar segregation must be kept up in all old centres of leprosy. VIII. By such measures a reduction in the numbers of lepers can be attained, and the disease eventually be stamped out.

Dr. FALCAO, of Lisbon, stated that there were no obligatory hospitals for leprosy in Portugal, and no attempts made at the isolation of lepers; indeed, no aversion was shown by peasants and others to the subjects of the disease, with whom the freest intercourse was held. Nevertheless, contagion could be proved in only a very small proportion of the cases, the majority of which were imported from America—especially from Brazil. In a considerable proportion of cases the disease appeared to be of hereditary origin, and he considered it, like syphilis and tuberculosis, to be capable of transmission both by heredity and contagion. Its predominance in the male sex was exceedingly striking. Out of 772 cases which he examined 225 occurred in married persons, but in only twelve cases inclusive were husband and wife affected. None of the cases which he observed had fair hair, and frequently the onset of the disease was apparently attributable to catching cold. Fish, pork, and other suspected articles of diet were conspicuous by their absence from the dietary of certain affected districts. The tubercular is much commoner than the anæsthetic form, and it usually begins over the external malleoli, or in the conjunctivæ or ears. In anæsthetic leprosy the interossei are generally the first part affected, or perforating ulcer is its first manifestation. The methods of treatment which he found most effectual were gynocardic acid internally, and reducing agents externally. He attributed the failure of treatment which he had experienced by chaulmoogra oil to the warmth of the climate of Portugal, which did not permit of large doses being tolerated.

Professor Neumann (Vienna) discussed the sporadic occurrence of leprosy in Bosnia, which he was commissioned to report upon in the year 1890. Previously the existence of the disease in that country was unknown. He discovered nine cases, all of which were of the tubercular form, the face being especially involved; no example of *lepra nervorum* was observed. Eight of the subjects were Mahommedans, one a Christian, and all were in the prime of life. No definite conclusion was arrived at as regards their contagiousness. Certainly a fish diet had nothing to do with their causation, as the dietary of the inhabitants is almost exclusively vegetarian. Probably the disease is really *endemic*, and Bosnia thus represents one of the halting-places of leprosy in its progress throughout Europe. It is possible that the disease entered the country with the Turks in the fifteenth century; but there is far greater probability that it came from the Ionian Islands or from Italy before that time as the result of the intimate relations with those countries. Since the existence of leprosy in Bosnia was definitely established, the Government have adopted all proper precautionary measures against its extension, and, in the event of its showing signs of spreading, contemplate the construction of a special hospital. Meanwhile all existing cases are under due treatment and control.

Professor Campana (Genoa) showed stab cultures of an anaërobic bacillus obtained from seven consecutive cases of tubercular leprosy. They were grown in a medium composed of agar-agar, bouillon, and three per cent. grape-sugar solution. The cultures made their appearance seven days after inoculation, and did not cause liquefaction of the medium. They were incapable of growing in an acid medium or in the presence of air. Pure cultures could always be obtained, but inoculation experiments on animals yielded negative results. The micro-organism stained in precisely the same manner as the *bacillus lepræ* of Hansen.

Professor Köbner (Berlin) combatted Arning's statement that in recently affected localities the disease was always of the tuberous variety, while the anæsthetic or nerve form occurs only in localities where the disease has long been prevalent. He had carefully investigated this point when visiting the Riviera, an old-established leprous centre, where he was unable to find a case of the anæsthetic form, with which the local medical men were also unacquainted. He stated his belief in the potentiality of traumatism to constitute the starting point of the disease, probably by affording a ready means of entrance for the virus, and cited the case of a robust German, who, after living for four years in a leprous colony in Pernambuco, only contracted the disease after severe injury, involving rupture of the urethra and traumatic fever. Although his domestic and connubial habits remained unaltered after his return to Germany, the disease was never communicated to his wife or children.

He disagreed with the theory of its fish origin advocated by Mr. Hutchinson. He himself had carried out a long series of inoculation experiments, in conjunction with Professor Koch, on fish (chiefly eels), and had been no more successful in reproducing the disease in them than in animals. In some cases, however, white spots had been noticed on the skin some weeks after the inoculations. The cornea of the rabbit is capable of maintaining the life and integrity of the bacillus for some months, although a general leprous affection has never been known to start from the seat of inoculation, but fish have never been proved to be capable of thus acting even as a temporary receptacle.

He condemned the treatment by creasote, chaulmoogra, and the usual remedies as injurious to the digestive and renal functions, without materially benefiting the patient. He advocated the use of salicylate of soda, not as a certain remedy, but as one which occasionally renders excellent service. Many of the gross disfigurements of face may be obviated by the regular use of the nasal speculum and the destruction by thermocautery and otherwise of early manifestations of the disease in the mucous membrane of the nostril.

On the Cultivation of the Leprosy Bacillus (A. Ducrey, Naples).—In a paper on the cultivation of the leprosy bacillus M. Ducrey related, that in ten cases of tuberculous and anæsthetic leprosy he obtained twice, from all the inoculated tubers, a perfectly pure growth of a microbe, identical, from a morphological point of view, with the bacillus of leprosy. This bacillus has no resemblance with the varieties discovered and cultivated by MM. Bordoni-Uffreduzzi, Gianturco, Kanthack, or Barclay, while it is in every way similar to the one which Professor Campana, of Genoa, had already produced. It is absolutely anaërobic; can be cultivated by infission in a solid medium (agar-agar mixed with grape sugar), or in a liquid medium, if a vacuum be made with a mercury pomp. It is developed very slowly at the temperature 37–39° centigrade.

The growth begins to be visible after a week's incubation, and reaches its maximum of development in about a month. It is easily coloured by the Gram method, but some very good preparations have also been produced by the Koch-Ehrlich method. As yet no positive result has been obtained by inoculation in animals.

It is very probable that this microbe is really identical with the leprosy bacillus. The morphology is in both cases the same; some absolutely pure growths, from several original tubercles, have, on many different occasions, been obtained by MM. Campana and Ducrey; and, if any further proof were needed, the anaërobism of the bacillus explains, with some show of likelihood, why pulmonary leprosy is so exceptional, if indeed it exists at all.

Tuesday, September 6th.

Professor Neumann (Vienna) opened the debate on *Syphilis Tardiva.* He said that the mere fact of this subject being on the programme of almost all Congresses of experts in syphilis was conclusive evidence of its paramount importance. Recent progress in our conception of infectious diseases in general contributed theoretically to our elucidation of the subject. Many external, *i.e.* accidental, factors certainly played a rôle in the causation of late syphilitic manifestations, *e.g.*, want, unsanitary surroundings, tuberculosis, malaria, scorbutus, diabetes, Bright's disease, and alcoholism. Imperfect treatment of the earlier stages is frequently followed by late manifestations. There can be no doubt that they must be regarded as metastases, in Virchow's sense. Clinical observation, as well as anatomico-pathological research, have firmly established the fact that tissue changes which persist after the recent stage give rise to tertiary syphilis; indeed, the changes and morbid products brought about by syphilis are far from ephemeral and require very prolonged treatment for their absorption. Thus it is that late syphilitic manifestations so often are localized on the seats of antecedent early lesions (Neumann, Haslund, Leloir, etc.). Doubtless some chemical change renders the tissues susceptible to the action of the exciters of the disease, which are the products of metamorphosis of bacteria or ptomaines (Selmi, Brieger). Careful and long-continued examinations of the blood made in Professor Neumann's wards had, however, led to no definite conclusions. It is certain that the condition of blood in the tertiary stage closely resembled that in the secondary stage; the amount of hæmaglobin is always greatly below par, and there is always diminution of red corpuscles and comparative increase of leucocytes. These changes are very marked in cases of the so-called pernicious anæmia of syphilis.

Out of 9,742 cases of syphilis treated in the clinic, 665 were tertiary, *i.e.*, 6·82 per cent. The date of appearance of the tertiary symptoms was very variable; in some cases twenty, thirty, or even forty years had elapsed since the primary infection.

In the	1st year	after infection	32	cases developed
,,	2nd to 10th	,,	221	,,
,,	11th to 20th	,,	87	,,
,,	21st to 47th	,,	33	,,

In the remaining 286 cases the date of infection could not be accurately determined. The most obvious fact is that tertiary symptoms most frequently appear in the third year after the primary sore, and in gradually diminishing proportion in subsequent years.

The respective ages of the patients were as follows :—

From	1 to 10 years	1 case
,,	11 to 20 ,, ...	40 cases
,,	21 to 30 ,, ...	224 ,,
,,	31 to 40 ,, ...	221 ,,
,,	41 to 50 ,, ...	109 ,,

From 51 to 60 years	57 cases
„ 61 to 70 „	18 „
„ 71 to 74 „	2 „

The influence of wretched general surroundings in the production of tertiary syphilis receives support from the fact that out of 361 females treated only 16 were prostitutes, the remainder all belonging to the working classes. Two-thirds of all the cases had not been treated before the appearance of tertiary phenomena, while in the remaining third treatment had been imperfectly carried out. Affections of the skin were the commonest manifestations, then came bone disease, while syphilis of the viscera and nervous system very seldom was noted.

He then referred to some forms of tertiary syphilis which are considered endemic in certain countries and dependent upon certain peculiarities of climate, *e.g.*, the Norwegian radesgye and the Dalmatian skerljevo, which exists in enormous numbers in Bosnia and Herzegovina, in which latter country it is commonly called frenjak. The disease is extremely common, and, as Dr. Sluck has shown, tertiary syphilitic symptoms of a very grave type are prominent features. Hitherto the disease had been considered for ages as one *sui generis* which spread by heredity and not by sexual relations. But it seems probable that it is either ordinary syphilis contracted in an unusual manner, or else the condition lately described as *syphilis hereditaria tardiva.*

Fournier describes this latter as a combination of syphilitic manifestations originating in hereditary infection, but showing itself at a more or less advanced age. All cases developing before the age of three he classifies as *S. hereditaria præcox.* In Fournier's experience no case has shown itself above twenty-eight years of age, but Ricord and Mauriac record cases beginning at a much more advanced period of life. The point raised for discussion was whether these manifestations were necessarily or not preceded by earlier secondary symptoms which had passed unperceived. The conclusions arrived at were as follows:—

(1.) The chief etiological factor in tertiary syphilis is some latent virus resulting from imperfect treatment in the early stages, assisted by constitutional diseases (tuberculosis, malaria, scurvy, diabetes, Bright's disease, and chronic alcoholism).

(2.) Tertiary syphilis cannot be considered as exclusively a metastasis, but in most cases as the result of some exudation persisting in the tissues, which, under the influence of some of the factors enumerated in (1), takes on new action.

(3.) Tertiary syphilis occurs in about 6 or 7 per cent. of all syphilis cases, and in the great majority does so in the third year after primary infection. It may, however, show itself sooner or much later.

(4.) Its most frequent manifestations are in the skin, mucous membrane and bones.

(5.) So-called epidemic syphilis (radesgye, skerljevo, frenjak, etc.) is not a disease *sui generis*, but ordinary tertiary syphilis along with some cases of late hereditary syphilis.

(6). Hereditary transmission to later generations than the first has not been proved.

(7). The examination of the blood gives similar results to that in secondary syphilis; the amount of hæmoglobin present is invariably greatly diminished; diminution of the number of red corpuscles and increase of the white, although less marked, are equally constant changes.

Syphilis of the Heart (DR. MRACEK, Vienna).—Notwithstanding the work done by Ricord, Lebert and Virchow on the gummatous syphilis of the heart, the occurrence of which had long been doubted, it was not until long after the investigations of Lancereaux, Heubner, Köster, Friedländer, Baumgarten and others that the syphilitic pathology of the heart began really to be understood. A proof of this is given by the frequent cases of cardiac disease which have arisen in succession to syphilitic affections of the vessels.

The pathological conditions originating from syphilis in the heart are divisible into two groups, viz., those which arise there as direct products of the disease, and those which necessarily arise as consequences of these products.

In the first class may be distinguished two modes of origin: (1) a new growth which is heterogeneous to the mother tissue; (2) a specific inflammation which we, having regard to its final stages, must regard as a fibrous, sclerosing myocarditis. For the most part, both kinds are found together, although one or the other always predominates. Both processes occur as a circumscribed affection of the organ limited to smaller portions of its substance, but cases are known in which myocarditis fibrosa has extended over larger tracts. The site of predilection of both forms is the walls of the left ventricle, probably owing to the greater amount of work which this part of the heart has to perform. The gummata are found almost exclusively in the muscle, oftener nearer the pericardium than the endocardium, but in either case the membrane becomes involved. They are generally of the size of a cherry or a pigeon's egg, but they have been found to attain the size of a billiard-ball. The larger nodules are made up of an agglomeration of small foci, generally they present themselves as dry, yellowish-white cheesy masses which are surrounded by a connective tissue thickening. Gummata with a viscous matrix are scarcely ever observed.

It is very questionable if these gummatous deposits are capable of absorption, still more so if they can suppurate and empty like ordinary abscesses. Most frequently they are encapsuled, are not noticed during life, and only discovered accidentally on post-mortem examination.

The second kind of syphilitic product is the fibrous sclerosing myocarditis, in which the myocardium, together with the pericardium and endocardium, are converted into greyish-white, scar-like plates, or are traversed by widely branching streaks. The whole wall of the heart is, however, seldom affected. The process begins apparently in the walls of the vessels, and extends to the fissures without; indeed, the conception is universally gaining ground that this is the usual commencement of syphilitic processes, beginning in the finest vascular twigs, or in the vasa vasorum of the large vessels, causing inflammation and contraction of the lumen, and from thence spreading into the surrounding tissues. This is always difficult to prove, since the affected vessels are not easily found, and the disease, moreover, does not affect the whole tract of a vessel, but only small portions, or even segments here and there. My own researches prove that in the heart, as in syphilis hæmorrhagica and the intestinal syphilis of hereditarily syphilitic children, the process has its point of departure in the smaller vessels. But, as the researches of Küssmaul, Mayer, Weichselbaum, Chwosdek, Ehrlich, Birch-Hirschfeld, Balzer and Palma show, the large arteriæ coronariæ are also affected, not only with Heubner's affection, but they also exhibit alternations of aneurismal dilatations with constriction of their lumen, leading naturally to great disturbance in the nutrition and functions of the heart.

As regards the heart substance itself, the muscle is pushed aside by the syphilitic growth and atrophied, or it becomes included in the granulation masses, and undergoes retrogressive metamorphosis; the cicatricial degeneration affects the myocardium seriously, the new connective tissue forcing the fibrillæ apart, and causing their complete atrophy, the destruction of their vessels helping greatly to bring about this result.

We observe as a consequence of this, in smaller or larger sections, a scar-like degeneration, and even a necrosis of the muscles. If the latter does not quickly cause death, there follows an inflammatory process, forming a line of demarcation round the necrotic muscle substance. The next consequence is that the remainder of the muscle substance becomes hypertrophied through excess of work, the scars become stretched by the strain of the systole, and the heart becomes increased in size either *in toto* or through an extension of the wall in one place—a so-called *aneurisma partiale cordis chronicum.* Such aneurisms occur mostly at the apex of the left ventricle of the heart. Later on, owing to the formation over them of new pseudo-membranes, both pericardial layers become distorted, or the cicatricial wall becomes in time so thin that it bursts through, and sudden death takes place.

These changes in the myocardium are almost always accompanied by corresponding changes in the pericardium and endocardium, and the production of connective tissue thickenings, with scleroses in the subserous epicardial connective tissue.

Mracek found independent syphilitic processes in hereditary syphilis in the form of perivascular infiltrations, with thickening of the pericardial tissue. The pericardium may be affected alone, but the endocardium only undergoes changes in conjunction with the myocardium. These are fibrous and cicatricial thickenings which sometimes affect the trabeculæ and cause atrophy of the papillary muscles. Their chordæ are thinned, and then stretched out.

Condylomatous-looking proliferations on the valves, ulcerous processes in the endocardium, and abscesses in the heart wall, with rupture, which have all been attributed to syphilis, are not syphilitic changes or products, even though they may occur in syphilitic individuals. Endocardial thrombi occur in the widened chronic aneurismal dilatations—they usually are closely connected with the heart wall, and consist of masses of fibrin and coagulated blood.

The pathological changes which take place in the heart in consequence of syphilis are scarcely ever discovered clinically. Almost the half of the reported cases were accidental discoveries in persons who had died suddenly, and others were not diagnosed during life as syphilis of the heart, but presented the symptoms of hypertrophy, sometimes with valvular murmurs; but the greater part end fatally with all the appearances of heart weakness. The possibility of the syphilitic nature of these cases should be borne in mind by the clinician, since in such conditions it has been proved that therapeutically great relief can be given.

In the discussion which followed these addresses, Dr. Romniceano (Bucharest) advocated the inunction of mercurials into the chest, abdomen and back, rather than into the axillæ and groin, and stated that all risk of mercurial erythema was thus averted. He drew attention to the fact that salivation was never produced in children, an observation which was confirmed by Dr. Feulard, of Paris.

Professor Neisser (Breslau) advocated the employment of mercurial plaster in preference to ointments as recommended by Unna. This method has the advantage of cleanliness and permanence. He was of opinion that want of sufficient treatment was by far the most common cause of tertiary manifestations. He rejected the conception of syphilis hereditaria tardiva as a special condition, and considered it as ordinary tertiary syphilis in which the secondary manifestations had been badly developed or not recognized.

Heart syphilis could not, in its earlier stages at least, be a rare condition, for the state of many heart affections was greatly improved by anti-syphilitic treatment.

Professor Lang (Vienna) considered the phrase tertiary syphilis to be a merely conventional term. He did not think that serpiginous or any other localized lesions could be due to the action of a toxine, but rather to that of some organized contagion.

Dr. Finger (Vienna) upheld the propriety of the term tertiary syphilis. He confirmed the statement that tertiary lesions frequently occurred on the site of antecedent secondary lesions and attributed it to the continuity of the presence of the virus.

Dr. Lewin (Berlin) said that this was a toxological question.

Toxines were albuminous bodies which were so altered as to have become poisonous. It is quite possible that they can influence the body albumen, but it must be the circulating albumen and not that which is fixed.

Professor Paltauf (Vienna) discussed the *Lymphatic Affections of the Skin.* He proceeded to review the development and course of Mycosis Fungoides d'Alibert, and dwelt particularly on the formation of the swellings characteristic of the disease.

He distinguishes two types of the affection. The one—the classic type—including the varieties described by Kaposi and Besnier; the other type—*des tumeurs d'emblée.* The first is preceded by skin affections, the second is not. He drew attention to those cases accompanied by pseudo-leucæmia (Hodgkin's disease and Lymphadenoma of English writers) described by Gillot, Landouzy, Galliard and Amicis. Prof. Paltauf regards them as of importance in furnishing considerable support to the view of Mycosis fungoides being Lymphadénie cutanée.

He had examined five cases altogether; three of these were published by Kaposi in 1887–88, and one each in Kaposi's and in Neumann's clinic. The latter showed well-marked lymphadenomatous-like changes in the internal organs. The one in Kaposi's clinic died of an intercurrent affection of the bladder and presented evanescent nodules for examination. He had also examined Dr. Riehl's preparations of his case of mycosis fungoides d'emblée.

Prof. Paltauf then surveyed the various theories about the relationship of mycosis fungoides to other affections. According to one class of observers, mycosis fungoides is a form of granulation tumour; others regard it as a chronic infective disease. A third class would have mycosis fungoides an expression of a diathèse lymphadénique; others, again, regard it as a form of multiple sarcomatosis of the skin, or an intermediary stage between sarcoma and granuloma; or, lastly, as a process *sui generis* (une entité morbide spéciale—Vidal-Brocq).

He then gave a comprehensive account of his histological researches. Mycosis fungoides consists of cellular tissue derived from connective tissue without any antecedent inflammatory process; for cell-emigration, formation of new blood-vessels—at any rate to any extent—and scar tissue are completely absent. The tissue infiltrates only the cutis. The organisms that were found were those characteristic of pyæmia only. Hence he is opposed to the theory of specific infection.

As regards mycosis fungoides being of lymphadenic origin, he shows, as above stated, that the cells are descended from the connective-tissue elements, and that the reticulum of the growth is formed by the separation and divergence of the fibres of the corium. He objects to the idea of mycosis fungoides being a form of sarcomatosis; for, in the first place, the tumours may undergo complete involution, and secondly, the typical course of the disease rather presupposes a definite ætiology. Furthermore, multiple growths often appear, bearing no relation to any central growth, and they do not, like most sarcomata, consist of embryonic connective tissue.

Like most forms of lympho-sarcoma, leucæmic (lymph-adenomatous) tumours are difficult to classify, some resembling the infection tumours, others the sarcomata, and the same holds good for mycosis fungoides.

There are probably other causes besides those we know which act as stimuli to new formations, and Paltauf refers to the influence of chemical substances (pilocarpin, bacterial proteine, &c.) over various nutritive conditions of the organism.

Kundrat excludes pseudo-leucæmia (Hodgkin's disease) and certain allied conditions from neoplasms entirely, and places them in a separate class, as the result of nutritive disturbances which he regards as conditioned by external causes.

Paltauf would also include under this heading mycosis fungoides which does not depend upon any special cause, but rather is the result of some nutritive disturbance; in other words, " une entité morbide distincte " (Vidal-Brocq).

Paltauf is rather inclined to regard lymphodermia perniciosa (Kaposi) as related to mycosis fungoides rather than identical with leucæmia cutis. He has examined a case of lymphodermia perniciosa, and supports Besnier in his view of it being a variety of mycosis fungoides—a generalized dermatitis with the addition of subcutaneous nodules.

As regards the diagnosis of leucæmic, or pseudo-leucæmic (lymphadenomatous) diseases of the skin, first and foremost, the general disease must be established. The little known leucæmic affections agree with the case reported by Biesiadecki.

The pseudo-leucæmic skin affections are still indefinite and need elaboration. A mistake can easily be made in the case of multiple tumours of the skin, especially when secondary deposits in the skin are numerous and the primary growth is internal and cannot be ascertained. Such an error is still more likely when the general symptoms of leucæmia are poorly marked.

Leucæmia Cutis (Dr. GUSTAV RIEHL, Vienna).—Dr. Riehl quite agreed with Professor Paltauf's views as set forth in his paper, and urged that every case coming under the category of lymphatic affections should be thoroughly investigated clinically, anatomically and bacteriologically.

As a supplement to Paltauf's paper Riehl added a few remarks on leucæmia cutis—those cases of leucæmia (leucocythæmia of English writers) in which the skin is also affected.

Riehl had under his care for some time a female patient, ætat. 57, suffering from lymphatic leucæmia. Her illness was first noticed in 1889, and began with an eczematous condition of the skin of the nape of the neck. It was accompanied by a good deal of irritation, and in the course of a few months became universal. There were enlarged glands in the cervical and inguinal regions; localized thickening of the integument with moist secretion gradually appeared; œdema of the ankles set in, and the skin was everywhere tender on pressure. Some of the glands in the neck and in the groin broke down, and caused the patient to seek advice.

On admission.—Lungs, heart and bones normal. Liver dulness reached below the level of the umbilicus; spleen was considerably enlarged; kidneys normal. Temperature, 36° C. The integument everywhere was bright red, in certain regions glossy, in others covered with slight branny scales, and in others excoriated. It was easily movable, generally thickened, and œdema was present in the neighbourhood of the pelvis and ankles. The thickening was considerable in the face, neck and inguinal regions, so much so that the patient's appearance called to mind *leontiasis leprosa.*

Examination of the blood showed white blood-cells in the proportion of 1 to 24 or 26 of the red blood-corpuscles. Stained preparations after Ehrlich's method revealed the presence of lymphatic leucæmia.

After remaining in the hospital for some time, during which the skin underwent but little change, she died from cardiac failure.

The autopsy confirmed the diagnosis. The liver weighed 6 kilograms (192 ozs.), the spleen over 3 kilograms (96 oz.). The bones showed no changes. Nowhere could any tumour of the skin be detected. Microscopically the liver showed leucæmic infiltration around the interlobular vessels, which were plugged with white blood-cells. The spleen revealed similar changes of the follicles and around the blood-vessels. Slight alterations only could be detected in the renal tissue. The lymph-passages of the lymphatic glands were crowded with leucocytes, and round-celled infiltration was well-marked in the neighbourhood of the capsule. As regards the skin, leucæmic infiltration everywhere occupied the middle layers of the cutis: round cells with large nuclei, scanty protoplasm, embedded in reticular tissue. The smallest groups were situate around the nerves, the largest were diffused through the corium. Towards the *pars papillaris* and the subcutaneous tissue the infiltration was less dense. Here fusiform elements were recognizable—connective-tissue corpuscles in proliferation. In the infiltration the lymph-vessels distended with leucocytes were easily demonstrable by reason of their endothelial walls. The blood-vessels also contained numerous leucocytes; the red blood-cells were massed together. In regions of the skin less affected, the infiltration was found chiefly round the hair-follicles, sweat-glands and the larger blood-vessels; the veins were sharply defined by the infiltrating tissue. In the neighbourhood of the leucæmic deposit œdema of the skin was well marked, and the papillary layer resembled mucous tissue.

Traversing the deposits coarse bundles of connective tissue and elastic elements were discernible. Besides the above-described cells, numerous pigment cells, abundant eosinophile cells, with large nuclei, were readily seen; "mast cells" were absent. The epidermis was almost everywhere œdematous. Where exudation was abundant, numerous crusts covered the cutis; the epidermis was absent and pus cells were found in the leucæmic deposit.

This case, therefore, was one of lymphatic leucæmia, in which the skin was also implicated. Whether the integument was affected at the very outset could not be determined; but the skin changes were undoubtedly directly connected with leucæmia. The diagnosis was as firmly established by the histological characters of the skin as by the changes in the liver. The case differs clinically from those described by Biesiadecki and Neuberger, in which tumours of the skin were first noticed, and it was only later on that these became confluent; whereas in Riehl's patient there was a diffused affection of the integument which, although thickened in places, never formed any tumour-like outgrowths.

Hence a diffuse type, and a tumour-forming type of leucæmia cutis may be distinguished; histologically, of course, the distinction could not hold—they may be viewed as clinical varieties simply. Some observers admit of two forms depending upon the initial manifestations—a pruriginous and a tuberous form. Paltauf has, however, plainly shown that the existence of the latter is dubious, to say the least.

The above-described form of leucæmia might be mistaken clinically for mycosis fungoides, or for lymphadenia (lymphadenoma, Hodgkin's disease. Eng.)

Examination of the internal organs, and especially of the blood and of the skin, would guard against such errors. (Microscopic preparations were exhibited.)

Dr. HALLOPEAU (Paris), read a conjoint communication by Dr. BESNIER and himself on "*The Forms of Erythrodermia of Mycosis Fungoides.*" Basing their observations upon six cases, they were able to formulate the following conclusions:—(1.) Now-a-days, in presence of any generalized erythrodermia of doubtful nature, whether primary or secondary, the supposition of its mycosic nature ought always to enter into the question of diagnosis; (2.) Mycosic erythrodermia may occur either in the earlier or later stages of the disease; (3.) It may precede the appearance of tumours by several years, or may appear consecutively to them; (4.) These forms of erythrodermia usually only become generalized gradually; often several intermediate portions of skin remain healthy; (5.) The redness of skin occurs co-existently with thickening, exaggeration of its folds, and hardening; (6.) The eruption may be in places papular; the papules have often a hair in the centre; at other times they present a central depression filled with a horny grain; (7.) Pigmentary spots may also occur concomitantly; (8.) The eruption is always accompanied by the most intense pruritus; (9.) Scratching gives rise to excoriations and ecchymoses, but there is never prurigo; (10.) Very large lymphatic gland tumours occur simultaneously;

(11.) The erythrodermia may, like the mycosic tumours, undergo partial retrograde evolution; hence there results the production of nummular decolourized patches which contrast by their pallor with the vivid red colour of the diseased parts; (12.) The redness may be attenuated over large surfaces and leave marked pigmentation; (13.) There is no leukæmia; (14.) A biopsy carried out at the onset of the disease may furnish important indications for diagnosis.

Mycosis Fungoides d'emblée (Gustav Riehl).—Dr. Riehl demonstrated a case of this very rare variety of mycosis fungoides in a day-labourer, æt. 47, who was said to have been enjoying good health up to two years ago. About that time he noticed nodules on the feet and on the legs, which broke down, leaving ulcers; these healed slowly, and the scars were easily seen.

Two months ago, a new eruption of swellings appeared on the right knee and on both legs. On admission, the brown-red tumours, 1 to 2 cm. broad and 5 cm. long and 1 cm. thick, were distributed in a circular manner around white cicatrices. Some were hard to the touch, other nodules had undergone ulceration, showing a purulent surface and irregular margins.

The neighbouring skin was brown and showed scars of the size of a shilling. A wax-model of the affection was exhibited showing these points.

Preliminary Remarks upon the Action of Allylsulphocarbamide v. Thiosinamine (Dr. Hans von Hebra, Vienna).—Dr. Hebra said:—It is only within recent times that I have been able to investigate thoroughly the action of allylsulphocarbamide, and I wish at the outset to convey my thanks to Dr. Ullmann, Director of the Rudolph Hospital, and Drs. Koller, Neusser, and Mracek, in whose departments the following observations were made.

In November, 1890, my attention was first drawn to this substance by Dr. v. Froschauer. He stated that animals could be rendered immune to bacillary infection by subcutaneous injection of allylsulphocarbamide. However, on repeating carefully these experiments, this was found not to be correct. It was then employed in some chronic cutaneous diseases, and five cases of lupus were selected with this object. Unfortunately it was about the time when tuberculin was falling into disrepute, and, consequently, after a short interval the patients refused to go on with the treatment. I regret this circumstance, as I am unable to demonstrate these first cases, especially as they showed some very interesting features. Those which I propose to bring before you to-day are much more recent, and the improvement is not so advanced as in the first series.

The leading feature in all is the *local reaction, unaccompanied by any general disturbance of the constitution.*

Local changes.—About two hours after the injection, at times a little later, the lupus site becomes reddened and begins to swell. Both these signs depend upon the extent of the disease and the dose administered; the reaction may be slight or considerable.

The swelling may develop so rapidly and become so extensive that the epidermis gives way, and even the *pars papillaris* of the corium may show fissures which, however, contain no exudation. These phenomena persist unchanged for some four to six hours, and then gradually subside. It is not until some twenty-four hours have elapsed that the original colour is re-established.

Formation of vesicles or exudation of sero-purulent fluid never occurs.

The patients feel increased heat and tension of the lupus site, which disappear on subsidence of the swelling. No matter how long the injections were continued, the local reaction was constant, and hence the question of toleration of the drug did not arise. It did however appear that larger doses were necessary to produce an equal intensity of reaction; but the dose was pushed expressly to expedite the curative action of the drug. I am still uncertain whether a repetition of the same dose might not after all have effected a similar result over a longer interval of time.

On the day following the reaction, considerable desquamation takes place, all the lupus patches are covered with scales, but the adjacent healthy skin remains smooth and unaltered as before.

General symptoms are never manifest, and on no occasion has any febrile disturbance been detected. At times a certain discomfort has been complained of, and on one or two occasions bilious vomiting has occurred. I referred these symptoms to the too rapid increase of the dose; for when the medicament was gradually administered, they were never observed. Of course it is quite possible that some transient digestive disturbance was the true cause; for they never recurred with the repetition of the same dose.

As regards the beneficial effects of the medicament, the changes in the lupus patch bear witness after a few injections. Lupus tumidus, for instance, becomes much less prominent, the protuberances become smaller, and the whole area sinks considerably. In ulcerative lupus the thickened margins decrease, and in a few weeks' time the healing process is established, after vain endeavours to do so by external remedies.

The lupus nodules offer the greatest resistance, owing doubtless to the paucity of their blood supply. As both the tuberous and ulcerative forms of lupus on improvement tend to pass into the so-called leathery form, it is possible that the effects of the drug are less beneficial in this stage. In any case I am unable to say whether lupus can be completely cured by this agent. That there is improvement can be easily perceived in the cases I shall bring before you.

The results as regards the *cicatricial tissue* following spontaneous ulceration of lupus as well as the application of caustics are much more striking. Wherever such tissue, either from pressure or traction, disturbs nutrition or impedes movement, a complete *softening and loosening* ensues on the administration of the drug. This is most noteworthy in cases of ectropion due to lupus of the cheeks and eyelids. Here, where the disfigurement is great, in the course of a few months the ectropion disappears completely. In one case which I shall show you, the left eyelid was completely everted and its margin dragged towards the zygomatic process of the malar bone. The tarsus was so thinned through tension and pressure that it was scarcely distinguishable as such. The patient could not close the eye at all. The left half of the upper lip was markedly everted, showing the mucous membrane, and the whole cheek presented a parchment-like scar, which was firmly fixed to the subjacent structures. Now, after twenty-five injections, the ectropion is diminished three-fourths, the closure of the eyelids can be accomplished, the lip has returned to its normal position, and the scar, previously tense, is soft and movable.

No less remarkable is the result achieved in the patient with lupus in the neck. The head could scarcely be moved, let alone raised; now both movements are almost normal in extent.

In a third case—lupus of the fingers—the distortion was so great that the finger-nails were growing into the palm, and extension was a sheer impossibility. Now the patient works at a sewing-machine, owing to her being able to use her fingers again.

The fourth case, and one that I shall demonstrate to you, is that of a patient suffering from lupus of the right lower extremity. He could not extend the knee beyond a right angle at most; a cast was made of the limb in this position. To-day extension is almost complete, and I believe will soon return to the normal condition.

In all these results I wish particularly to state that no other therapeutic means were made use of, and Drs. Neusser and Mracek have expressed their readiness to testify to these statements.

A third series of favourable achievements by the use of this medicament is seen in the case of chronic glandular swellings. The local reaction follows rapidly in the case of enlarged lymphatic glands. The indistinct masses break down into isolated nodules. This is best seen in tubercular subjects and those of a strumous taint. Even where there is no suspicion of struma or tubercle, the swollen cervical glands gradually subside. I am unable to say whether the secondary enlargement of the glands, due to malignant disease, are at all influenced by the drug.

Syphilitic affections of the glands do not undergo any modification. In fact, it was this indifference in an apparently favourable case of enlarged submaxillary glands that induced us to investigate the neighbouring regions more thoroughly, and we then discovered chronic syphilitic ulceration of the nasopharynx.

If this be found to hold good, then this remedy may be of value in helping to establish the differential diagnosis between syphilis and tubercle and its allied conditions.

A fourth point is the increased secretion of urine. On the day of injection the excess of urine passed varies from 200 to 500 c. cm. (7½ fl. oz. to 18 fl. oz.). We have never noticed any untoward effect upon the kidneys. Albumen and morbid changes have never been detected, although at all times carefully watched for. With the continued administration of the drug, and the steady improvement of the local condition, the urinary secretion has gradually become normal in amount.

The remedy has an unmistakable influence in promoting the absorption generally recognized as carried on by the lymphatic system. This indeed may be disadvantageous, especially in cases where the lungs are at all affected. For I have noticed that phthisical patients who had been for some time free from febrile disturbance, after a few injections showed elevation of temperature. It is quite possible that this is but a fortuitous coincidence, as the cases were serious. They were, however, too few to permit of any valuable deductions as regards the point. Moreover, we know that any patient who has been suffering from chronic phthisis for a long period, may easily show marked febrile disturbance with only a slight attack of pleurisy or pneumonia. These symptoms may be readily referred to absorption of purulent products, and doubtless the action of the drug may facilitate such absorption in chronic phthisis. In one case severe night-sweating, which necessitated change of garments four or five times in the night, notably decreased under the administration of the drug. This was proved by intermitting its use.

Lastly, of great importance is the euphoria patients experience during the treatment. The appetite is remarkably increased in every case, and coincidently with the exhibition of the remedy. Every patient that was weighed showed an increase, and the general appearance was much improved. This feature alone warrants the complete innocuousness of the method. Further, not a single abscess occurred, or sign of swelling, or redness at the site of the injection. Of course, precautions were taken in administering the injection—the exact dosage, cleanliness of the syringe, &c.—but these are the usual points to be observed in all hypodermic medication.

Although this is a Dermatological Congress there is still one more matter I should like to allude to, viz., the action of the drug in corneal affections.

Besides lupus, one of the patients was suffering from nebula of the right cornea, the result of an old pannus. During treatment the opacity cleared up to such a degree that he no longer stumbled against passers-by, and he was able to tell the time by the town-hall clock. The margin of the nebula still remained ; on the other hand, in slighter cases of opacity the effect of the remedy was remarkable ; some completely disappearing. (*Vide* The Rudolf's Hospital Reports.)

I should, however, put in a word of caution in its application to recent ocular affections, for even after the first injection the reaction that follows is often severe. Hence old-standing cases in which the danger of rekindling inflammation is quite remote should only be selected, or if recent ones, then only when the patient is kept under strict observation.

As regards experiments on animals, a dog weighing 10 kilograms (about 22 lbs.) received a daily dose of the remedy, which we found effective in an adult human being, and which was rarely exceeded. The animal remained perfectly well, its appetite increased remarkably, and in the course of a month it had gained 4 kilograms (8¾ lbs). With curarised animals, the doses, which were 10 to 20 times larger proportionately than those employed in the human subject, caused but slight lowering of the blood-pressure. Even this diminution was probably due to the alcohol or ether in which the remedy was dissolved. Hence, as regards the heart, no danger need be apprehended.

The drug used is obtained from the volatile oil of mustard, and is termed allylsulphocarbamide, or thiosinamine. It is prepared by taking two parts of volatile oil of mustard, one part of absolute alcohol and seven parts of liquor ammoniæ, sp. gr. 960. These are heated in a water bath to 40° C. and concentrated for some hours. The odour of the oil of mustard as well as that of the ammonia disappears, and on cooling, crystals of thiosinamine or allyltheourea separate out.

Representing these by chemical formulæ,

$$\text{Urea} = CO\left\{\begin{matrix}NH_2\\NH_2\end{matrix}\right.$$

$$\text{Thiosinamine} = CS\left\{\begin{matrix}NH.\ C_3H_5\\NH_2\end{matrix}\right.$$

we see that the O of the carboxyl is replaced by S, and in place of an atom of H in the amine group, the radical allyl C_3H_5 is introduced.

As in all preparations of mustard oil, the addition of water must be avoided, and consequently ether or alcohol must be used as solvents for thiosinamine.

A drawback is that these solutions cause a smarting sensation, which, however, never lasts more than a minute, and in no case has deterred the patient from continuing the treatment. It is quite possible that other derivatives of mustard oil may have therapeutic value. Phenylallyl sulphocarbamide has also been tested; it only dissolves in ether to the extent of 5%, whereas thiosinamine dissolves in alcohol up to 20%. As I mentioned at the outset, this is not meant to be an exhaustive paper on thiosinamine. I am well aware that there are several points still requiring further research; *e.g.* the microscopic examination of the tissues during the reactive period and after a prolonged course of the drug, also the influence it exerts over bacilli, &c.

To sum up. Thiosinamine is a crystalline chemical product of constant composition which, when subcutaneously administered, produces a local reaction without any general disturbance of the system.

It has a favourable influence over lupus tissue.

It renders cicatricial tissues soft and pliable, so that various distortions previously present are removed.

It has a specific action in diminishing glandular swellings.

It tends to clear nebulæ of the cornea.

It favours the absorption of exudation products.

Notes on the Pruriginous Dermatoses and the Forms of Lichen (Dr. L. Brocq, Paris).—We intend to consider in this short article only those cutaneous affections where pruritus occupies a somewhat prominent place, and of which the principal cause seems to be a peculiarly morbid state of the nervous system. Even when so restricted, the number of the diseases is still very large: but in spite of the great variety in their objective symptoms they offer some common characters with a true family likeness. We believe it necessary to begin their study on entirely new bases, to examine them in a group with due regard no longer to their eruptions alone, but also to their pathogeny, their evolution and their subjective symptoms.

Part I.—*General Description of the Eruptive Manifestations of Pruriginous Neurotic Dermatoses.*—The pruriginous neurotic dermatoses may produce eruptions of two different kinds: some are special and quite peculiar to a given affection, like the characteristic papule of lichen ruber, for instance; of these we have nothing new to say. Others are of a less distinct type, and might be the symptoms of affections of the most diversified nature. These should be considered as the results of a certain reaction on the part of the organism, which is excited by a morbific cause, and so reacts externally in a special manner according to its particular idiosyncrasies.

These eruptions are very numerous; one has only to glance at the history of *dermatitis herpetiformis* to be convinced of their multiplicity and polymorphism. We shall to-day rapidly sketch three of their most common and important varieties: (1) The lichenoid eruptions; (2) The eczematous eruptions; (3) The urticarial eruptions.

(1.) *Lichenoid Eruptions, Modifications caused by Scratching the Integument. Theory of Lichenification.*—When there is any continued traumatic action upon a particular point of the skin, especially when there already exists some itching on that spot, it is easy to produce, as Dr. Jacquet has proved, some cutaneous alterations which essentially consist of a chronic inflammation of the integument. There is a gradual infiltration of the derma by some embryonic elements; the skin thickens, becomes hard and rough, there is hypertrophy of the papillæ, which sometimes aggregate and even appear like irregular, uneven papules having no relation to the pilo-sebaceous or the sudoriparous systems. After a certain time the skin shows quite a peculiar aspect, with a great exaggeration of its natural lines, representing a sort of network with meshes more or less large and regular, and a decided infiltration of the integuments, which have lost their suppleness and their usual consistence. Such is the morbid process which I call *Lichenification.*

Of course the modifications of the integument may be of various degrees. Sometimes the tissues are much thickened, infiltrated and very deeply grooved; sometimes bristling with pseudo-papular elements, in which case the lichenification is very accentuated; sometimes, again, the integuments do not show any appreciable thickening, yet when closely examined the natural lines are seen to be greatly exaggerated, and in the intervals between them may be seen some small, flat and shiny facettes, very similar, but for their distinctness and tint, to the minute elements we notice at the beginning of lichen planus. In these cases the skin has often lost its usual colour, and become of a dirty brown tint; to this special condition of the integuments we give the name of *abortive Lichenification.*

It appears that some pruriginous affections modify the vitality and nutrition of the integuments in such a way that lichenification is almost the necessary result, while others, on the contrary, leave untouched or even increase the power of resistance of the tissues to any traumatic action. Besides, there are patients whose skins seem to be peculiarly favourable to the modifications we have described. But we must specially bear in mind, if we want to classify these affections, that lichenification may originate spontaneously on a healthy skin, at least objectively, or make its appearance on one already attacked by some anterior dermatosis.

The first group of facts we have ranged under the head of *Primary Lichenifications*. The lichenoid condition is pure, and constitutes the whole of the eruption. These primary lichenifications, circumscribed or diffuse, are the only affections which really deserve to be termed *Lichen* in the original sense of the word.

On the other hand, the cases entering into the second group, which we have called *Secondary Lichenifications*, are not of the nature of real and true lichens, but simply *lichenified dermatoses*. They are present in all the pruriginous affections of the skin, of which the manifestations are at all definite.

Lichenification, then, may occur in the most different morbid conditions; it must be considered merely as a syndroma, and cannot alone characterize a pathological group of a well-defined type, or form the basis of any classification. Many errors have been made on its account by dermatologists, and that simply because its real nature had not been realized. Some, having found it to occur coincidentally with another clearly marked dermatosis, especially with eczema, have considered it to be in every case allied to that affection, or merely a variety of eczema ; others, having observed positive cases where lichenification had spontaneously originated without any other anterior dermatosis, have attributed to it by far too great an importance, making of every case where it was noticed a distinct variety of a large dermatosis which they have named lichen: and here we find the key to all the confusion surrounding this question.

(2.) *Eczematous Eruptions.*—In France, for some time past, the vesicular or squamous eruptions known as eczema have been considered as a precise morbid entity. The eczematous eruptions, called by Dr. E. Besnier *eczematisation*, is only a special mode of reaction of the economy under some exciting causes. This explains how a typical eczematous eruption may be produced by a local irritation, some disturbance of the organism or a nervous influence of any kind ; and how also eczematisation may be combined in the same subject with other morbid cutaneous manifestations, and in particular with lichenification.

(3.) *Urticarial Eruptions* are a very common mode of reaction of the pruriginous affections; they can exist alone or in combination with other eruptions. Amongst the pure urticarial, papular, papulo-vesicular, or papulo-bullous, we must include the particular element of the affection which Dr. E. Vidal has named *acute lichen simplex*, and which consists of a small papule, sometimes a reddish and pruriginous papulo-vesicle, often excoriated at its summit.

PART II.—*General Conception of the Pruriginous Neurotic Dermatoses.*—In all neurotic affections of the skin we find three elements by which to appreciate and classify them.

(1.) It is first necessary *to grasp the principle*, the very essence of the disease; and in the present state of science this is very difficult. All we can often say is, that at its very beginning we notice that particular state of the organism which has been called *nervosism;* a most complex condition, still imperfectly known, and yet which must be well defined before any classification of the cutaneous neuroses can be attempted. Sometimes, indeed, we see no other cause for the disease but that state of nervosism which, by progressing gradually and acting particularly on the integuments, produces a dermatosis; and sometimes, on the contrary, this latter arises from quite an incidental origin, such as a violent emotion, a great moral shock, some sorrow, or any cause which at all increases the nervosism of the subject.

(2.) The second element is *the peculiar action of this nervosism on the skin.* The cutaneous determinations of nervosism may be regular, as in menstrual pruritus; irregular, as in gouty pruritus, or else quite permanent. They may be limited to one or more spots, either symmetrical or not. They may be diffuse or even generalized, and appear indifferently on flexor or extensor surfaces, all of which distinctions are very useful for purposes of classification.

(3.) The third element to consider is *the reaction of the integuments* against the different manifestations of that nervosism: and here the various eruptions we have described may be of very good service.

Bearing in mind these three elements, we think the neurotic affections of the skin may be classified as follows:—

I. In a first group of cases *the integument shows no reaction,* does not produce any spontaneous eruption, and is not modified by scratching. It is a pruritus sine-materia, a pruritus sine-prurigo. We have called them *Nevrodermiæ.* These nevrodermiæ may be generalized or localized.

A. *Generalized Nevrodermiæ.*—(*a.*) These may be of long duration, continuous, non-intermittent, like senile pruritus. (It may be well to remark that this type can occur quite apart from old age.) (*b.*) They may also be only transient and intermittent, like arthritic and menstrual pruritus.

B. *Localized and circumscribed Nevrodermiæ.*—(*a.*) Like the generalized nevrodermiæ, these may be continuous and last months, nay years; (*b.*) or else be intermittent, regular and irregular: recurring for instance with the menses.

II. In the second group *there is a reaction of the integument, but this occurs only under severe scratching, and we only meet with the cutaneous lesions we have described as primary lichenifications.*

A. These lesions may be very indistinct (abortive lichenifications), in which case they are always diffuse, symmetrical, and truly deserving the name of *diffuse nevrodermites,* which we have already given them. They may also be more definite as well as more circumscribed: these are then examples of transition between the preceding and the following types.

B. These primary lichenifications may be clear, pure and well marked, with the integuments reacting strongly under the influence of scratching. In these cases the lesions are almost always chronic, circumscribed, and either symmetrical or not: *chronic circumscribed nevrodermites,* as they have been termed by Dr. Jacquet and myself, seems to be a very good name for these diseases, which correspond to the circumscribed lichen of the old authors and to the chronic lichen simplex of Dr. Vidal.

III. A third and more complex group includes cases where *the reaction of the integument is in the shape of eczematisation and lichenification.*

A. It presents those eruptions, till now simply called eczemas, which occur after some violent emotion, and in more or less predisposed individuals—as a rule in nervous arthritic subjects. Under definite conditions the disease has always a tendency to return. These lichenified eczemas deserve, we think, the name of *Lichenified* *eczematous nevrodermites*, and, like the eruptions of the second group, may be diffuse or circumscribed, of uncertain localization, and are almost always symmetrical.

B. If we accept the opinions of Dr. Besnier, we can add here those cases the study of which he has just begun under the title of *Diathesic Prurigos*, and which correspond to the type of *chronic polymorpho-pruriginous dermatitis with successive outbreaks, and of predominating eczemato-lichenoid type*. These last we believe to be identical, except in a few points of detail, with what Hebra has described as Prurigo.

C. Between the facts of the two preceding subdivisions, we find others which form quite an ascending scale, very difficult to describe. They vary from the true prurigo of Hebra either by their short duration, their localization to flexor surfaces, the face or the scalp, either by their circumscription, their appearance at a late period of life, the complete absence of the urticarial state and of the original papules, either, again, by the very weak condition of the processus, the nature of which it is sometimes hardly possible to define, and yet, like all other varieties of this group, they must be known as *Lichenified eczematous nevrodermites*.

IV. From the foregoing there is a natural transition to *the true Prurigo of Hebra*, which we place in a fourth group. Here the reaction of the integument, if recent researches are to be relied upon, takes the form of a special element, the Prurigo papule, always accompanied by an urticarial state of the integuments. With the development of the disease the two processes of lichenification and eczematisation may appear: it is then a *special chronic polymorphous nevrodermite*, known in France as the *Prurigo of Hebra*.

But very similar to this type is another, of which Dr. Vidal and myself have frequently spoken before. In this disease the reaction of the integument merely consists of simple papules, papulo-vesicles, or giant papulo-pustules of Prurigo. There is no secondary lichenification or eczematisation: it is a *chronic nevrodermite of the pure Prurigo type*.

V. In the fifth group we will class those cases always of a fairly acute nature and very similar to urticaria. They are characterized objectively by a disseminated eruption of small papulous or papulo-vesicular reddish elements, which occur on the extremities or the body.

These have been called acute simplex lichen by Dr. Vidal, and are true *cutaneo-urticarial nevroses of the type of Vidal's acute lichen simplex.*

VI. From these last we pass to a sixth group, where the reaction of the integument is of pure urticarious elements, dry or bullous. These *pure cutaneo-urticarial nevroses* are very frequent, though they are even more commonly found accompanied by other eruptions.

VII. The seventh group includes those very complex affections always more or less related to Duhring's dermatitis herpetiformis. We shall not insist here on these extremely *special cutaneous nevroses* of the type *dermatitis herpetiformis.*

VIII. Perhaps lichen ruber and its different varieties may be considered, though with much less reason and certainty, as the last group of this long series. Here the reaction of the integument lies in a very special element, on the nature of which there can be absolutely no doubt: it is the typical original papule of Wilson's lichen planus. This element may appear independently of any traumatism, or be produced only by scratching; but it certainly can in all cases be increased or modified by the latter: indeed it is often accompanied by lichenification which may mask the nature of the original element.

Such is the conception we offer of the pruriginous neurotic dermatoses. We are far indeed from being satisfied with it, for the distinctions between the various groups mainly rest on the different modes of reaction of the integument: but however imperfect or provisional it may be, it will perhaps facilitate any subsequent work on the subject, and this is our only ambition.

Favus and Pelade in France during the period 1887–1892 (Dr. H. Feulard, Paris).—It is well known that *tinea* is of very frequent occurrence in France; and until the commencement of this century favus was still common enough, but with the progress of hygiene and prosperity it tends to disappear day by day. Already in 1886 we noted the decrease of favus, and now again mark that such decrease continues unchecked. These conclusions are founded on the statistics published annually by the Minister of War, giving the number of conscripts examined medically each year. Tinea is comprised, wrongly it is true, amongst the infirmities proscribed by law; and thus we know the number of young men, aged from twenty-one years onwards, who each year are refused for military service on account of Tinea.

These figures omit consequently the female portion of the population, and all cases of favus cured before the twenty-first year. They are, therefore, only approximative, giving us information upon the number of those still subject to vegetable parasitic diseases at the age of twenty-one years; but this number will furnish us with information for comparison upon the frequency of tinea in different parts of France. As analogous documents exist which have already served M. Bergeron in 1864, and which we have employed in 1880, the comparison of results furnished for these three periods will be of value.

During the years 1887 to 1891 there were 1,518,813 conscripts examined, and of this number 964 have been exempted from service on account of tinea (favus can only be in question here, as tinea trichophytina practically ceases to occur at such an age).

But from 1881 to 1885 the number of exemptions were 1,399, from 1876 to 1888 there were 1,541. The decrease, therefore, is regular and well marked.

Further, whilst in 1886 all the departments furnished exemptions, from 1887 to 1891 there were five departments (Côte d'Or, Indre, Haute-Marne, Belfort, Rhône) unrepresented. In the remaining 82 there were 53, or about two-thirds, with less than ten exemptions in five years; ten had from 10 to 20; five from 20 to 30; four from 30 to 40; one had 40 (Aveyron); one had 50 (Côtes-du-Nord); one had 63 (Hérault); one had 65 (Pas-de-Calais); one had 90 (Seine-Inférieure). An examination of the proportion of exemptions for each department per 1,000 conscripts examined shows that the coefficient is much lowered, and it is interesting to remark that the departments most attacked are nearly always the same.

The localities most attacked form three principal groups. The most important is situated in the centre of France, and comprises the department of Hérault (the most affected), and grouped around that Aveyron, Gard, then Corrèze, Cantal, Lozère l'Ardêche, Bouches-du-Rhône; in the south-east the Alpes-Maritimes; in the south Etriège, and to the westward of that Landec.

The second group is less coherent; the regions implicated are situated on the borders of the Channel, first of all the Seine-Inférieure, at the north the Pas-de-Calais, at the west La Manche, and the Côtes-du-Nord. Finally, a third group, fairly compact, with a less marked amount of disease, including the departments of the west between Touraine and the sea; Indre-et-Loire, Vienne, Maine-et-Loire, Deux-Sèvres, Vendée, Loire-Inférieure, Morbihan, Finistère.

On the contrary, the malady is less distributed in the eastern part of France; the eastern portion of the basin of the Seine, that of the Marne, and the region of the Vosges, are but little implicated. One might say that there is no relation between the frequency of tinea and the density of the population. Certain countries, little populated but living under miserable conditions, furnish much more than the great centres. Favus is, above all, a malady of country districts, affecting a poor population, because, without doubt, in the country the means of contagion (by animals) are more common, but above all because precautions are absent, whilst town children are looked to, and if attacked are easily and suitably treated. It is, therefore, necessary to place the therapeutic resources within reach of rural populations (*service spécial au chef-lieu*), which is still wanting in many parts. Certain individuals preserve with care their malady in order to escape military service, as happens also in some other countries, *e.g.* Austria.

If favus diminishes in France, one can say on the other hand that pelade increases, and since 1888, when the alarm was given in the remarkable report by M. Besnier to the Academy of Medicine, the malady has continued to increase. It commits numerous ravages, especially in the army, and now that every one passes through barracks there is much in this to attract the attention of the military health authorities and hygienists, in order to avoid greater dissemination of this malady. Unlike favus, it is the great centres which are especially affected, and particularly Paris; in ten months (August 1891 to May 1892) the proportion of soldiers affected with pelade in the military division of Paris has been 10·60 per 1,000 soldiers; other corps d'armée, *e.g.*, the 5th (Orléans), the 12th (Limoges), the 6th (Chalons-sur-Marne), have had respectively during the same time 5·26, 4·96, 3·93, per 1,000; the total attacked of the effectives of the army during these ten months has been 1,734; an average of 3·30 per 1,000. Regular epidemics have broken out in the regiments, and nearly everywhere the doctors accuse the use of the "tondeuse" as assisting in their propagation. One cannot then insist too strongly on the most rigorous prophylactic measures to stop this increase of recent years, and one asks in face of these facts what arguments can be opposed to the contagiousness of common pelade.

Case of Cysticercus (Ladrerie) of the Skin in a Man (Dr. PERRIN, of Marseilles).—Dr. Perrin related to the Congress a case of cysticerci co-existing with a tænia solium, and apparently due to a real auto-contamination. The cysticercosis was throughout subdermic, and diminished in two years from fifty to a dozen in number, none occasioning either pain or even inconvenience. Microscopic examination of a cyst clearly revealed a very characteristic head of an armed tænia with its four suckers and double crown of hooklets.

Dr. Perrin recalled the fact that in all previous observations, with a single exception, these cysts in man have always been attributed to the cysticercus of the pig, which is itself nothing else but the scolex of the tænia solium. The only case where the cysticercus might have originated from the tænia inermis was published in 1890 by MM. Bitot and Sabrayes. Looking to the common occurrence of tænia inermis in every country in proportion to the consumption of raw beef, prophylactic measure for man and beast were suggested, and the value of such measures was already evidenced where in force. Prophylaxis was declared to be more difficult in the case of tænia inermis, for the cow is contaminated through the drinking-water, and the infected cow is far more difficult to diagnose during life than an infected pig, whilst her cysticercus, owing to its small size, is apt to pass unnoticed in meat. The author suggested, therefore, that before delivery for consumption these animals should be submitted to a system of stabling and pasturing, where pure water only was obtainable. Then shorter-lived cysticercus inermis would probably undergo the alterations of old age and become harmless. The author stated this to be the conclusion of Berenger-Peraud, based on the experience of English physicians in India.

Treatment of Lupus in Disseminated Nodules (Dr. WILLIAM DUBREUILH, Bordeaux).—Amongst the innumerable phases presented by common lupus, particularly when it is developed on the face, the author pointed out that there is a special kind where the nodules recur with a constancy quite characteristic. It is one in which a little surface of cicatrix, reddish and infiltrated, is always covered with small and isolated nodules. In this case the tubercles are not all superficial; there are also some deep and invisible ones, and those that are seen are often only the top of a bunch or a chain of tubercles more or less deeply imbedded in the derma, sometimes in very opposite directions.

As for the method of treatment generally adopted in such cases, scarification seemed to be a great deal too diffuse: it cannot always be confined to the diseased points, and requires to be too often repeated. Ignipuncture is certainly preferable: but with this means it is sometimes impossible to reach all the prolongations of the lesions, which will therefore rapidly reappear. The most advisable method, in Dubreuilh's opinion, is the scraping one. This is done with very fine and delicate scrapers of a particular shape, and when these are handled carefully, somewhat like a gimlet, it is possible to enucleate the nodules and ferret out absolutely all their ramifications. The scraping should then be followed by a cauterization with chloride of zinc applied with a very fine woollen brush.

Remarks on the Alopecias of Keratosis Pilaris (Dr. L. Brocq, of Paris).—The author remarked that keratosis pilaris of the scalp may present several aspects and produce many kinds of alopecia.

(1.) A first division includes those cases known by the name of moniliform aplasia of the head, where the slender, curly and annulated hairs are surrounded at their exit by a small reddish miliary elevation.

(2.) In a second group he placed those varieties, rather common between the ages of twenty and fifty, where alopecia consists of small patches of variable forms and size, either isolated or communicating, generally covering the whole of the vertex, spreading sometimes even to the temporal regions, where the derma is of a more or less dead white colour, rather depressed and looking somewhat atrophied. In the vicinity of these patches are found some spots where the skin may be of its normal or of a pale pink coloration; these are dotted with small reddish papules in various degrees of evolution, developed about the hairs. The latter are extremely fine, and certainly atrophied; but very near to these, and between the alopecia patches, can always be found some hairs quite normal, and forming more or less thick tufts according to the condition of the disease. These irregular and disseminated patches, with a tendency to cicatricial atrophy of the scalp, are quite characteristic of alopecia of keratosis pilaris.

(3.) In a third group he included those cases very analogous to what Taenzer has already published under the name ulerythema-ophryogenes, and in which the morbid depilatory process is more evident, but, at times also, more circumscribed than in the preceding section.

(4.) In a fourth variety, by far the most common, the morbid depilatory process is on the contrary reduced to its minimum. The lesions may originate either in very early age, when they always coincide with a more or less definite ichthyotic condition of the integuments and a keratosis pilaris; red at first, and very decided on the extremities; or they may appear between the ages of fifteen and twenty-five, in which case they are accompanied by a most marked keratosis pilaris in evolution on the extremities, sometimes on the face and the eyebrows. They are characterized by patches irregularly disseminated on the vertex, of variable form and size, isolated or communicating, according to the state of the disease, of a dull white colour and rather depressed condition. In the neighbourhood of these, hairs of different thickness will be met with: some normal in almost every respect, and around these several reddish lines of a decidedly inflamed nature. They generally coincide with either a dry desquamation of the scalp or a real and true seborrhœa: and that is why these cases have often been confused with the seborrhœic and the idiopathic premature alopecias.

From the pathogenic point of view of keratosis pilaris of the scalp the author formulated the two following hypotheses:—(1.) Either the keratosic process exists spontaneously round the deep papillæ of normal hairs, but becomes visible only when these have been replaced by more delicate ones with more superficial papillæ, in which case keratosis pilaris alone is the cause of the alopecia; (2.) or else the keratosic process is only partly responsible for the alopecia, and comes in addition to some other morbid depilatory process which has already modified the hairs and replaced the deep by more superficial papillæ.

Colloid Degeneration of the Skin (Dr. Perrin, of Marseilles).—The author stated that colloid degeneration of the derma is an exceedingly rare affection of the skin. The first case was described by Wagner in 1866; since then MM. Besnier and Balzer have, in 1879, studied its symptomology and pathological anatomy, and proved with certainty that it was not a colloid-milium but a colloid degeneration of the connective tissue and of the vessels of the derma. The four other cases of this very curious disease were published, one by M. Feulard in 1885, together with its histological examination by Balzer, and the remaining three by R. Liveing in 1886, unfortunately without any examination. Dr. Perrin's case was, by its objective characters, very similar to those described by Besnier and Feulard. There was a similar vesiculoid and shiny appearance of the eruptive elements, a similar indolence of the eruption, and localization to the upper part of the face and the ocular conjunctivæ. The dorsal surface of the hands, however, presented some lesions very similar to those observed on the face, but this localization had also been noted by Liveing, while Feulard's patient had, it seems, at the early age of 15 or 16, also suffered from lesions of the same kind.

Dr. Perrin's patient, like Besnier's forester and Feulard's gardener, was accustomed to live much in the open air. She was a very poor, wretched alcoholic woman, about 54 years old, busy collecting all sorts of rags in the morning, and sorting these during the rest of the day on a piece of ground lying by the sea. MM. Besnier and Wagner had noticed in their respective patients almost daily neuralgias and occipital cephalalgia; this, Feulard had found completely wanting in his case.

The patient died with this interesting affection, but during her stay in the hospital several pieces of skin were removed from the face and hands, of which Dr. Reboul made a very careful histological examination. The alterations involved only the connective-tissue elements, the fibres of the skin. A mere thickening at first, then a greater réfringence, followed by a colloid degeneration and formation of colloid masses. These were limited laterally by the excretory tubes of the dermal glands and the hair sheaths, which deviated always if the masses were voluminous, and so formed regular frames to them. On the surface of these colloid masses the papillæ of the derma were seen to deviate, gradually diminish in height and totally disappear. The epidermis was much thinner than usual, became more or less exfoliated in the vicinity of the larger colloid masses, while the cells of the deeper layers were vesicular. The connective-tissue sheaths of the sudoriparous and sebaceous glands and hairs were often thickened, and sometimes had even undergone colloid degeneration. The vessels of the derma and hypoderma were very markedly altered, their transparency greatly diminished, the walls very much thickened, especially the external coat, the connective-tissue elements of which had completely undergone colloid degeneration. The external connective-tissue sheaths of the nerves were also more thickened than normally, though without other alteration. But this general thickening was not sufficient, in the author's opinion, to indicate an original nervous influence. He believed the colloid degeneration of the connective-tissue elements of the derma to be the results of digestive troubles, that have fallen on these elements under particularly favourable external conditions, such as the continuous congestions of the skin under the influence of solar radiation, all conditions which in a certain class of patients contribute to create a very special predisposition.

[*Other papers and discussions of special interest will be reported in our next issue.*]

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LUPUS ERYTHEMATOSUS.*

BY MALCOLM MORRIS.

AMONG the many advantages of Congresses, such as that which I have now the honour to address, one of the greatest is the opportunity thereby afforded us of reviewing from time to time the work that has been done in the interval, and, as it were, marking the point reached at a given moment by the rising tide of scientific progress. Workers in any special line of research are thus enabled to form a judgment, more accurate than could otherwise be arrived at, as to what is being done by other investigators, and as to the drift and significance of their results. In this way the exact position of any particular question in debate can easily be defined, and even if no final conclusion is reached, the direction in which the current of authoritative opinion is setting is clearly ascertained.

Among the unsolved problems of dermatology there is none more interesting, and hardly any of greater practical importance, than the nature of lupus erythematosus, and the relation of that most perplexing of skin diseases to lupus vulgaris. Eleven years have now passed since the question was discussed before a gathering of dermatologists representative of the speciality throughout the world. The intervening period has been an eventful one in the annals of dermatology, as well as of medical science in general, and although the question may not yet be altogether ripe for settlement, the time seems to me to have come for us to take our bearings, and see clearly where we are and in what direction our course lies.

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* Read at the Second International Dermatological Congress, Vienna, 1892.

Taking the discussion at the Seventh International Medical Congress, held in London in 1881, as a starting-point, let me briefly recall the chief points in the evolution of scientific opinion on the subject since that date. The question as propounded by Kaposi on that occasion was, " Is lupus erythematosus an inflammatory process or a neoplastic one?"* In a communication of great and permanent value the distinguished head of the Vienna School of dermatologists pointed out that although he had formerly—" merely to make a concession to custom"—ranked lupus erythematosus among the neoplasms next to lupus vulgaris, he had always insisted that the disease was essentially inflammatory in nature, and absolutely distinct from lupus vulgaris. According to him, lupus erythematosus always begins by the appearance of "primary eruptive spots," characterized by a red, elevated, hyperæmic and infiltrated border, and a central scar-like depression, which is either smooth or covered with a dry, firmly-adherent scab. In its further development the process follows one of two principal types: spreading either by the peripheral enlargement of single spots (*lupus erythematosus discoides*), or by the successive appearance of fresh crops of spots which coalesce and form patches of considerable size (*lupus erythematosus aggregatus*). The former is usually confined to the face and head (including the mucous membrane of the mouth), occasionally also attacking the fingers; it is exceedingly chronic in its course, but, according to Kaposi, the clinical signs clearly indicate its inflammatory nature. The latter variety is much more acute, and the inflammatory symptoms are correspondingly more conspicuous. The local phenomena are not infrequently accompanied by constitutional disturbance of great severity, and this form of the disease sometimes—in Kaposi's experience—proves fatal. The inflammatory nature of lupus erythematosus aggregatus was also established by the histological investigations of Neumann, Geddings, Thin, Stroganoff, Geber, and Kaposi himself. Kaposi showed† that the inflammatory process did not always begin in the sebaceous glands, as had been previously taught, but might commence in any layer of the skin, superficial or deep. Kaposi further affirmed that the scar which is the final result of the process is not a true cicatrix (which is always a product of granulation, *i.e.*, of a neoplastic process), but a local atrophy of the skin. As to the cause of the disease Kaposi was unable to say more than that it was in many cases purely local, both in its origin and in its course. Of fifty-three cases treated by him in the decennium 1871–81, eight died: in six of these pleuro-pneumonia, and in two tuberculosis of the lungs, was the immediate cause of death. Besides these conditions, atrophy of the cerebral cortex and œdema of the meninges were found more than once, but neither in these nor in the other cases were any changes found in the cord, the sympathetic or the cervical ganglia, which could warrant the belief that the primary cause of the disease was a lesion of the trophic or vaso-motor centres. Kaposi's view in 1881, therefore, was that lupus erythematosus is an inflammatory process, in many cases local both in origin and course, its starting-point often being a congestive seborrhœa of the nose, either occurring spontaneously or as a sequel of erysipelas or smallpox.

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* *Trans. Internat. Med. Congress*, London, 1881, Vol. iii., p. 163.

† *Loc. cit.*, p. 164.

Th. Veiel, of Canstatt, who followed Kaposi on that occasion (and I cannot but feel it as a high honour to be associated with so distinguished a dermatologist in opening the present debate), speaking from an experience of fifty-five cases, argued strongly in favour of the nosological independence of lupus erythematosus, and defined with great precision the features, clinical and anatomical, which differentiate it from lupus vulgaris.* As regards the etiology, he maintained that while the disease is often connected with scrofula, tuberculosis, gout, and chlorosis—especially the two former—the existence of a direct relationship between them had not been conclusively proved. The disease of the sebaceous glands was, he contended, only an accidental circumstance, although it gave a special character to the process. The primary and essential feature of lupus erythematosus was, according to Veiel, the accumulation of blood-corpuscles in the dilated capillaries of the papillary layer and the corium, with cell infiltration in the neighbourhood of the blood-vessels. These changes were perceptible when the sebaceous and sudoriparous glands were still intact. The affection of the glands was the result of disease of the plexuses of blood-vessels surrounding them. Veiel therefore suggested that all terms (such as lupus acneiformis, lupus seborrhagicus, l. acnéique, etc.) implying any necessary connection between lupus erythematosus and the sebaceous glands should be given up. In the discussion which followed the reading of the papers of Kaposi and Veiel, the president of the section (the late Sir Erasmus Wilson) expressed the opinion that lupus erythematosus was an inflammatory affection arising after exposure to irritating influences; Vidal contended that the disease was not inflammatory, but "intermediate between inflammation and neoplasm"; Unna argued that it was at first inflammatory, but eventually became a new growth; Schwimmer's view was that the disease was purely local and inflammatory, while Thin agreed with Kaposi and Veiel that it was essentially distinct from lupus vulgaris, and expressed himself an adherent of the inflammatory as against the neoplastic theory. This, then, was the position in which the question was left by the International Medical Congress of 1881.

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* *Trans. Internat. Med. Congress*, London, 1881, Vol. iii., p. 167.

Shortly afterwards the conditions of the problem were entirely changed. On March 24, 1882, Robert Koch made his memorable communication to the Berlin Physiological Society, announcing his discovery of a specific bacillus in tuberculous tissues. In an assembly like the present it is unnecessary to recall all the steps of that far-reaching discovery. It is sufficient to say that the bacillus was found in miliary tuberculosis, caseous pneumonia, intestinal and glandular tuberculosis, and in *Perlsucht.* It was found constantly present in all tuberculous diseases, but never in other morbid conditions. Koch had succeeded in cultivating the micro-organism to several generations outside the body, and by inoculating animals with the cultures had induced genuine tuberculous formations, from which again the bacillus could be recovered. The chain of proof was therefore complete, and the bacillus was definitively shown to be not only an invariable concomitant of tuberculosis, but the actual pathogenic factor in its development. Before the discovery of the tubercle bacillus, the tubercular nature of lupus vulgaris had been affirmed by some investigators—notably by Förster and Friedländer—on the ground of the presence of the so-called "giant" cells in the diseased tissues. After the publication of Koch's discovery, therefore, it was natural that the bacillus should be sought for in the lesions of lupus. Demme was the first who succeeded in finding it.* In 1883 he found tubercle bacilli in three cases; the micro-organisms were present in very small numbers, and were occasionally imbedded in the giant cells. Soon afterwards Pfeiffer† found bacilli in two out of eight sections in a case of lupus of the conjunctiva. Doutrelepont‡ found the micro-organism in twenty-five cases of the disease; many sections, however, contained no bacilli—a fact which, as he points out, explains the negative results of some other investigators. Schuchardt and Krause[*] also found tubercle bacilli in four cases of lupus. These observations have since obtained the fullest confirmation at the hands of Koch himself, Neisser, Cornil, Leloir, Pick, Köbner, Block, Sachs, Bender, etc.[†] The experimental proof was furnished by Koch,[‡] who cultivated bacilli found in lupus-tissue, and inoculated guinea-pigs with pure cultures of the microbe, with the result that the animals became tuberculous. Leloir's[§] experiments (200 in number) supplied the strongest confirmation of those of Koch. Similar results were obtained by Hippolyte Martin, Cornil, Doutrelepont, A. Lingard, and others, and the doctrine that lupus vulgaris is a form of cutaneous tuberculosis is now generally accepted by dermatologists, with the notable exceptions of Kaposi[||] and Schwimmer,[¶] who still deny the identity of the two processes.

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* *Berlin. klin. Wochenschrift*, No. 15, 1883.

† *Ibid.*, July, 1883.

‡ *Monatsheft f. prakt. Derm.*, Bd. ii., No. 6, 1883.

Returning again to the disease which forms the subject of our discussion, the question is not now, as it was in 1881, whether lupus erythematosus is an inflammatory affection or a new growth, but whether it is, or is not, of bacillary origin, like lupus vulgaris. On this point there is a division of opinion among dermatologists which it is to be hoped the present Congress will do something to remove. Kaposi, who, as just stated, refuses to admit the tubercular nature of lupus vulgaris, *a fortiori* denies that tubercle has been proved to be the pathogenic element in lupus erythematosus. Leloir,[**] whose researches on the subject are among the most exhaustive that have been published, "absolutely reserves his opinion on the tubercular or non-tubercular nature of the affection." Neither the clinical evidence nor the results of histological, bacteriological, and experimental research appear to him in any degree to warrant the belief that lupus erythematosus is even an attenuated tuberculosis of the skin. The clinical argument he dismisses very briefly. The statement that lupus erythematosus can in certain cases become transformed into the vulgaris variety he traverses by saying that he has never seen such a transformation "except in one case in which he made a wrong diagnosis." He has since then learned by experience that "lupus vulgaris may in certain cases, when the nodules—confluent, spread out, superficial and congestive—are seated in the papillary layer, simulate lupus erythematosus." Histologically, there is no similarity between the lesions in the two affections, one striking point of distinction being that whereas in lupus vulgaris the giant cells are numerous and characteristic in appearance these elements are entirely wanting in lupus erythematosus. Leloir has never found a single tubercle bacillus in lupus erythematosus, and the results of experimental inoculations made by him have been entirely negative, except in one case of the kind referred to above, in which the disease, though at first taken for lupus erythematosus, was subsequently proved to be lupus vulgaris. Vidal[*] also holds the opinion that lupus erythematosus has not been shown to be tubercular. In a series of microscopic examinations of a patch of lupus erythematosus of the discoid variety excised from the occipital region of an elderly but otherwise healthy lady, J. Schütz,[†] "in spite of careful and varied researches," and staining by the methods of Löffler, Kühne, and Gram, failed to find evidence of the presence of micro-organisms. Among other adherents of the non-tubercular doctrine may be mentioned Payne,[‡] Feulard,[§] Radcliffe Crocker,[||] and, generally speaking, the Vienna School and the German and younger French dermatologists.

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[*] *Fortschr. d. Med.*, 1883.

[†] See *Annales de Dermatologie et de Syphiligraphie*, 1884; *Vierteljahrschr. f. Derm. u. Syph.*, 1886; and *Deutsch. med. Woch.*, No. 23, 1886.

[‡] "Mittheilungen aus dem kaiserl. Gesundheitsamte," zweiter Band, p. 38. Berlin, 1884.

[§] *Comptes Rend. de la Soc. de Biol.*, 1883; and *Comptes Rend. du Congrès Internat. de Copenhague*, 1884.

[||] "Maladies de la Peau." Besnier and Doyon's Transl., 2nd Ed., t. ii., p. 411, 1891.

[¶] "Tagebl. d. 59 Verssamml. deutsch. Naturf. und Aerzte zu Berlin," 1886, p. 224.

[**] *Arch. de Physiologie*, No. 4, October, 1890.

On the other hand Besnier and Doyon,[¶] while admitting that the anatomical and experimental evidence is at present against them, affirm that they have, "by clinical observation long pursued, convinced themselves of the relation which connects lupus erythematosus with lupus vulgaris, and both these morbid processes with external local tuberculosis developing in lymphatic subjects." They sum up the discussion by saying that "the history of the tuberculous element, its complete morphology, its bacteriological and experimental technique are still far removed from the absolute certainty which would be required to make *negative* results, such as those appealed to by Professor Leloir, prevail against the *positive* results of clinical observation to which we prefer to submit ourselves, at least till fuller information is available." The clinical evidence on which they rely is best given in their own words: "Let those who have the opportunity of making new observations make an attentive, *impartial*, and *adequate* investigation into each individual case, and they will often find, as we do every day, one of the ordinary causes of cutaneous scrofulo-tuberculosis, that is to say, a history of acute or chronic tuberculosis in the patient's family, or in the persons or animals with whom he is in immediate and prolonged contact, either by habitual cohabitation or by attendance during the course of a tuberculous disease." The fundamental pathological identity of lupus vulgaris and lupus erythematosus is also maintained by Jonathan Hutchinson.* In his Harveian Lectures on lupus he says: "Between common lupus and lupus erythematosus there are bonds of essential relationship, whether we regard their clinical features or their histological characters. . . . . It has been made probable that all forms of lupus are in occasional relationship with the state of health which gives liability to tuberculosis and to diseases of the scrofulous class." Elsewhere he says: "There can be little doubt that those who inherit a constitution liable to the easy growth of the tubercle bacillus are liable also to all forms of lupus. They are just as prone, perhaps more so, to be attacked by erythematosus as by vulgaris." While admitting that no bacillus has yet been recognized in well-marked lupus erythematosus, Hutchinson says that "this is only a question of time, for tuberculous antecedents in the subjects of lupus erythematosus are, I think, more frequently met with than in those who present the vulgaris form." He adds, however, that it would be premature to venture upon any opinion as to the relationship of the bacillus to the lupus process. Hallopeau[*] also considers lupus erythematosus to be a tubercular affection, and the same view finds a supporter in Jamieson.[†]

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[*] *Réunion Clin. des Médecins de l'Hôpital St. Louis*, 1889.

[†] *Archiv f. Dermatologie u. Syph.*, 1890.

[‡] *St. Thomas's Hosp. Reports*, 1883. London: 1884, N. S. viii., pp. 330–333.

[§] *Réunion Clin. des Médecins de l'Hôpital St. Louis*, 1889.

[||] "Diseases of the Skin." London: 1888, p. 406.

[¶] Kaposi, "Maladies de la Peau." French Transl.; 2nd Ed., Paris, 1891, vol. ii., p. 282, *et seq.*

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* *Brit. Med. Journ.*, January 7th, 14th, 21st, 1888.

The tuberculin test is now admitted to be at present too uncertain and ambiguous to be of any practical value in deciding such a question as is here under consideration. A reaction has been obtained in some cases of lupus erythematosus,[‡] though, as a rule, the phenomena were much less marked than in cases of lupus vulgaris, but as reactions of exactly the same kind have been obtained in cases of leprosy, syphilis, and even sarcoma,[§] I am not disposed to place any reliance on tuberculin as a diagnostic agent in diseases of the skin.

On the whole it may be said that the evidence at present in our possession, while insufficient to justify a definitive conclusion one way or the other, tends strongly to show that the specific irritant—if any such there be—which sets up the inflammatory process which we term lupus erythematosus, is not the tubercle bacillus. While fully agreeing with Besnier that the negative teachings of the laboratory must not be allowed to override the positive teachings of clinical experience, it appears to me that in the present instance the clinician has almost as little to adduce in the way of positive evidence as the bacteriologist. The "clinical" argument rests almost entirely on the alleged frequency of a history of tuberculosis in the patient's family, or of the co-existence of pulmonary phthisis or other tubercular manifestation in the subject of lupus erythematosus himself. As to this I can only say that my own experience agrees with that of Payne,[‖] who says that the association of that affection with "any so-called scrofulous disease" is not too common to be a mere coincidence. In the great majority of cases that have come under my observation the patients have not presented any sign of constitutional taint or weakness, even when large areas of the skin were involved. Besnier's argument from the mere fact of exposure to tubercular infection would prove too much, for by parity of reasoning many other skin affections,

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[*] *Ann. de Derm. et de Syph.*, 1891, p. 857.

[†] "Diseases of the Skin." Edinburgh, 1888, p. 452.

[‡] Schweninger and Buzzi, *Monatsh. f. Derm.*, xi., p. 581; Lewin, *ibid.*, xii., p. 177; Rosenthal, *ibid.*, xii., p. 183. A reaction after the injection of tuberculin was also observed in several cases of lupus erythematosus under my own care.

[§] Kaposi, *Monatsh. f. Dermatol.*, xi., p. 584.

[‖] *Loc. cit.*

e.g., acne, eczema, nævus, and even corns, might be shown to be tubercular.

Of C. Boeck's attempt to reconcile the discrepant views as to the nature of lupus erythematosus by suggesting that it is "the expression of a toxic effect of a masked tuberculosis, but evidently not a tuberculosis of the skin," it is sufficient to say, that, like most compromises, it will satisfy neither party. It is obviously incapable either of proof or of disproof, and therefore need not detain us.

The search for parasitic organisms other than tubercle bacilli in the lesions of lupus erythematosus has hitherto been unsuccessful. Ravogli* described certain cocci which he found in and between the horny cells, and arranged in chains in the cutis, and similar micro-organisms were described by Risso.† The accuracy of these observations is, however, considered very doubtful by those best qualified to judge. Other investigators who have followed the same line of research have had negative results.‡

My own view of the disease is that, with all due submission to Hutchinson, lupus erythematosus is a distinct "pathological entity,' differing as much from lupus vulgaris as a simple from a syphilitic ulcer. I agree with those who refuse to regard it as a cutaneous tuberculosis; and I base my belief on this point not only on the negative results of microscopic and experimental research, but on positive clinical facts which to my mind have more weight than the presumptive evidence of hereditary tendency or possibility of infection on which the adherents of the tubercular theory rely. Thus lupus erythematosus never ulcerates, whereas tubercular lesions have a strong tendency, sooner or later, to break down. Lupus erythematosus spreads at the edge, not by the development of nodules in the corium. The symmetrical arrangement of the patches in lupus erythematosus is also in favour of their being of non-tubercular nature. Again, lupus erythematosus never occurs in children, whereas lupus vulgaris, which is a tubercular process, usually begins before puberty, often in early childhood. While in lupus vulgaris, tubercular disease of bones, joints, and glands is a frequent concomitant, this is extremely rare in lupus erythematosus. I have never seen such an association in any of my own cases. The worst case—that is, the one in which the disease was most extensive and prolonged—was shown at the International Medical Congress* in London, in 1881. The disease had then lasted nine years, and the patient died five years afterwards of apoplexy. Almost the whole of the integument was diseased, but there was no evidence of any associated tuberculous lesion. Another point is, that when the appearance of the lesions on the face is not sufficiently characteristic to justify a positive opinion as to their nature, the doubt is often cleared up by the presence of symmetrical atrophy inside the concha and on the lobe of the ear, parts which are not usually attacked by lupus vulgaris. Lastly, as every dermatologist knows, it is often impossible to distinguish lupus erythematosus of the fingers from chilblains, and it is only when the face is attacked at the same time that the clinician is able to identify the disease on the fingers. Although it has been gravely suggested that chilblains are of tubercular nature, this theory has so far, I believe, remained the monopoly of its authors.†

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* *Monatsh. f. Dermatol.*, vi., p. 980.

† *Giorn. Ital. d. Mal. Ven. e della Pelle*, 1887, fasc. 5.

‡ See *Vierteljahrschr. f. Derm. u. Syph.*, 1886, and *Trans. Eighth Internat. Med. Congress*, Washington, 1887, Section 14.

In my opinion lupus erythematosus is an inflammatory affection belonging to the erythema group, and not necessarily connected with any microbic infective agent. It is probably dependent, in the first instance, on local disturbance of the circulation, the most recent researches having shown that the process begins not in the glandulæ but in the blood-vessels of the superficial layers of the cutis. This circulatory disturbance may be due, in some cases, to an external agency, such as cold or heat—a circumstance which helps to explain the marked preference shown by lupus erythematosus for exposed parts of the body, such as the face and hands; in other cases to nerve disorder. L. Perrin, of Marseilles, has recorded the case of a girl aged eighteen who, after a violent mental shock at the time of the earthquakes of 1887, followed by temporary mania and suppression of the menses, developed lupus erythematosus of the disseminate variety.

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* *Trans. Intern. Med. Congress*, London, 1881. Museum volume, p. 98.

† Cazin and Iscovesco, *Comp. Rend. du Congrès Intern. de Dermatol. et de Syphil. de Paris*, 1889, p. 511, *et seq.* The view was based on the prevalence of chilblains among the scrofulous children in the Sanatorium at Berck-sur-Mer. No bacilli were found, but inoculations in rabbits produced, it is said, general tuberculosis. The fallacies of such experiments, under the circumstances, are too obvious to require comment.

Perrin thinks the shock here prepared the way for the pathological process. Though Kaposi failed to find gross lesions in the nerve centres in the cases which he examined for the purpose, it is obvious that these were too few in number to base a negative deduction upon; moreover, the changes may (as is unquestionably the case in several diseases of nervous origin) be of too minute a character to be recognizable by any means of research at our disposal. The supervention of acute inflammation may possibly be due to the invasion of the affected parts by some parasite, such as the streptococcus of erysipelas.

As regards the varieties of lupus erythematosus, I recognize two principal types: (*a*) the *eruptive*, corresponding to Kaposi's "aggregate" or "discrete"; and (*b*) the *slow-spreading*, Kaposi's "discoid"; and I have nothing to add to his description of them. The numerous minute subdivisions of Besnier and Doyon appear to me to be confusing rather than helpful. Kaposi's third variety, in which the constitutional symptoms are of intense severity and the disease often ends in death, I have never met with in my own practice, nor have I heard of cases in the practice of other dermatologists in England. I can only conjecture that in these cases the local affection becomes complicated by erysipelas or some other acute infective process grafted on it.

Leloir* has described a class of cases in which lupus vulgaris closely similates lupus erythematosus. He says this form—which he calls *lupus vulgaire érythématoïde*—usually affects the face and, in exceptional cases, the neck and trunk; he has never seen it on the limbs. It occurs as a patch of greater or less size, sometimes as two or three patches, beginning generally on one cheek; it is usually confined to one side, but in some cases attacks the nose and both cheeks symmetrically so as to produce the classic appearance of the "butterfly" or "bat's wings." The appearance of the surface closely resembles that of true lupus erythematosus (*seborrhœa congestiva* of Hebra), but frequently on stretching the skin about the spreading edge of the disease small yellowish nodules having the characters of ordinary lupus nodules can be more or less distinctly recognized. The patches never ulcerate, but a tendency to cicatrization may be seen at the edge, which is never observed in true lupus erythematosus. The process is extremely chronic and, in spite of its relatively benign appearance, is very refractory to treatment. In some cases after a longer or shorter period of time, lupus nodules may gradually invade the whole surface of the patch or a considerable part of it. This is what used to be described as the "transformation" of lupus erythematosus into lupus vulgaris; the process is, however, in reality nothing more than the transformation of the diffuse and flat infiltration of lupus vulgaris erythematoides into a nodular raised infiltration. In two cases Leloir has seen this form of lupus vulgaris extending from the cheek to the inside of the lip, and he suggests that the cases in which lupus erythematosus is reported to have attacked mucous membranes were really examples of the erythematoid variety of lupus vulgaris. It is unquestionably the fact that lupus erythematosus may in certain parts, as, for instance, the lips, become very nodular and approximate closely in appearance to lupus vulgaris. It sometimes, though rarely, affects mucous membrane; I have at present under my care a man in whom the disease has attacked the inside of the lower lip. Leloir has supplemented the clinical evidence pointing to the true nature of the affection which he describes by experimental inoculations of diseased tissue from six cases (four of lupus vulgaris erythematoides of the skin, and two of mucous membrane); in all positive results were obtained. He also found tubercle bacilli in small numbers. The microscopic appearances varied in different cases, but, as a rule, partook to a greater or less extent of the characteristic features of both affections. A point considered by Leloir to be of great importance as justifying the classification of the disease with lupus vulgaris is the constant presence of giant cells, which are never met with in lupus erythematosus. The hybrid affection here described by Leloir has been, in all probability, the source of much of the confusion which has hitherto surrounded the subject of lupus erythematosus.

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* *Journ. des Maladies Cutanées et Syphilitiques*, May, 1891.

Another source of confusion is to be found in the nomenclature at present in use. As Kaposi pointed out in 1881, the name "lupus erythematosus" has always been an obstacle to the correct understanding of the nature of the disease. I agree with Hutchinson that it would be well to discard such terms as "exedens," "hypertrophicus," etc., when speaking of lupus vulgaris, as denoting mere *accidents* of the disease; and I must confess that I think Hutchinson's own system of compound names (*e.g.*, acne-lupus, eczema-lupus) open to the same objection. The name "Cazenave's disease," proposed by Payne as involving no theory as to the nature of the process, is not likely to be generally adopted, nor do I think it deserves to be so; the patronymic nomenclature of diseases is objectionable, as there are sure to be rival claimants for the honour in different countries, with the result that scientific terminology becomes both meaningless and unnecessarily burdensome to the memory. Unna* proposed the term "Ulerythema" (οὐλη = cicatrix) for a group of skin diseases in which inflammatory infiltrations are absorbed without suppuration, giving lupus erythematosus as the type of the class. I think with Unna that a source of confusion would be removed if the name "lupus" were abandoned in speaking of the disease which forms the subject of the present discussion, and as the fundamental lesion of lupus erythematosus is an inflammation of the skin causing degenerative changes, and finally leading to atrophy, I submit (with some misgiving) the term "erythema atrophicans" as a substitute.

To sum up. The conception of lupus erythematosus as a neoplastic process may be looked upon as entirely exploded, there being neither clinical nor microscopic evidence to support it. The inflammatory nature of the process is clearly shown by the microscopic appearances of the affected tissues (Leloir, Schütz); the process has no necessary connection with the sebaceous or sweat-glands, but begins in the blood-vessels. As to the cause of the inflammation, nothing is known with certainty. The doctrine that the tubercle bacillus is the exciting agent, must be put aside as "not proven," the anatomical and bacteriological evidence being absolutely against it, and the clinical evidence—relied on by some—resting on no sure foundation. With regard to micro-organisms of other kinds, their presence in the lesions of lupus erythematosus is very doubtful, and even if this be confirmed, their causative relation to the process would still have to be shown. At present, therefore, lupus erythematosus must be regarded as a chronic inflammation of the skin, local in its origin and generally local in its course, unconnected, as far as our present knowledge goes, with any underlying constitutional state.

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* *Monatsh. f. prakt. Dermatol.*, Vol. IX., 1889, p. 189, and *Internat. Atlas of Rare Skin Diseases*, No. 1, 1889.

SECOND INTERNATIONAL DERMATOLOGICAL CONGRESS,

HELD IN VIENNA, SEPTEMBER 5TH–10TH, 1892.

(*Conclusion.*)

THE discussion on *Lupus Erythematosus* was opened by Mr. Morris' foregoing paper and continued by DR. VEIEL (Canstatt), who had seen and analyzed 119 cases of lupus erythematosus, and was strongly of opinion that it was a special morbid entity, in no sense a form of lupus vulgaris, or the result of any tubercular process. It is never known to have been produced by inoculation. He had injected a considerable number of his cases with tuberculin, and in no case was local reaction evoked, while in one case only was there general reaction. He considered that tuberculin was, therefore, of value as an aid to diagnosis. In only seven per cent. of his cases was there any tubercular family history, and only five had subsequently died of tuberculosis. Dr. Veiel fully admitted the occasional difficulty in diagnosis, and recognized the existence of "lupus vulgaris erythematoides." He had no definite opinion to advance as to the real nature of the disease, although he suspected the existence of a specific micro-organism which had hitherto not been demonstrated. Histologically, the changes were merely those of a chronic inflammation of the superficial layers of the chorion. As regards treatment, he had found that mercury, iodides, cod-liver oil, etc., had no direct effect upon the disease, but they often proved of assistance by ameliorating the general health. The local treatment, which is of prime importance, must vary according to the conditions present. When the parts are hot and inflamed they ought not to be irritated, but cooling lotions and emollients applied until the margins of the disease are well defined and surrounding erythema has disappeared. When the condition is chronic energetic local measures may be employed, but with caution at first, as surrounding irritation is apt to recur. For small patches he recommended ointments or pigments of pyrogallol. For more extensive tracts of disease the best treatment he found to be fine but free scarification, the patient being under an anæsthetic.

Dr. Brocq (Paris) said that among cases still termed lupus erythematosus in France, two distinct groups must be recognized, (1) the deep, fixed, permanent type, which leaves cicatrices and is nothing else than an erythematoid superficial form of tubercular lupus vulgaris; (2) the superficial, fugacious type, or true lupus erythematosus, which leaves very shallow scars or atrophied skin; rarely neither atrophy nor scar results. The latter is closely allied to the group of erythemata, and has been denominated "erythema centrifugum symmetricum." True lupus erythematosus is not a tubercular disease, but it has been observed to exist in tubercular subjects coincidentally with lupus vulgaris, and a tubercular family history is frequently present. Dr. Brocq accepted the idea of Boeck, that probably the disease was due—like many forms of erythema—to the presence of special toxines particularly prone to develope in persons of tubercular taint.

Dr. Boeck (Christiania) thought that, although the disease was certainly not due to the presence of the tubercle bacillus, it had almost certainly some connection with tuberculosis, and indicated, in support of this view, its very frequent association with lichen scrofulosorum. He further developed his well-known theory as to its dependence upon toxines.

Dr. Radcliffe Crocker (London) considered lupus erythematosus as essentially a reflex disease occurring at points of weak peripheral circulation, which accounted for its remarkable symmetry in many instances. He regarded tuberculosis as merely a predisposing cause, while admitting the frequency with which one meets with a strong phthisical family history. Not the least notable point regarding the disease is its imitative polymorphism, resembling in different cases such dissimilar conditions as seborrhœa, psoriasis, erythema and lichen planus. (Drawings illustrating these resemblances were shown.) He considered that probably microbes played a secondary but important part, and this view found much support in the favourable result of parasiticides in its treatment.

Dr. Kopp (Munich) thought the disease less rare than is generally supposed; he found 35 cases among 800 patients; in only a small number of these was there any tubercular history. He considered the disease as mainly dependent on external irritation.

Dr. Hallopeau (Paris) expressed the opinion that lupus erythematosus is in all probability a tubercular affection. The negative results of microsocopic examinations and of autopsies did not necessarily disprove this. He suggested that there might be some attenuation of virus, with a special tendency to attack sebaceous glands.

Dr. Bulkley, of New York, contributed a paper pointing out that in his experience lupus erythematosus was more frequently met with in America than lupus vulgaris. Thus in 20,798 cases of skin disease there were 97 of lupus erythematosus and 73 of lupus vulgaris. In the former he had never found the bacillus, and Koch's injections did no good. He considered the disease to be probably a vaso-motor neurosis. He had never seen Kaposi's fatal type.

Dr. Bulkley recommended a thorough trial of phosphorus. After ten years' experience of it, he was satisfied that this drug produced good results in some cases. He used Ashburton Thompson's formula, viz., phosphorus, gr. ij., absolute alcohol, ʒxxx ; to be dissolved with the aid of heat and agitation, and then mixed while still warm *with* the following mixture, also warmed :—Glycerin, ℥ixss.; alcohol, ℥iss.; essence of peppermint, ʒss. (each drachm contains ½ grain of phosphorus). For the most part Dr. Bulkley begins with fifteen-drop doses, three times daily, taken after meals in water quickly added. He commonly increases the dose by one or two drops daily until 30 are taken three times daily. The dose is then increased more slowly by one drop every other day until 40–45 are taken. In rare cases, *if* it agrees, more is given.

Dr. Allan Jamieson (Edinburgh) said that the points in Mr. Malcolm Morris's well-reasoned introduction to this discussion were powerfully put, yet neither what he said nor the remarks which had fallen from some of the other speakers had convinced him that no connection exists between tuberculosis and lupus erythematosus. Mr. Morris had stated that the disease does not occur in children, yet a perfectly typical example of the symmetrical form in a girl aged seven came recently under his care. There appeared to him to be an argument from analogy which might reconcile the opposing views. The resemblances between leprosy and tuberculosis were admitted, but there were also differences. The bacillus lepræ exists in immense numbers in all the tissues of those affected, while in most members of what may be called the lupus family the bacillus tuberculosis is scanty in the extreme. Lupus vulgaris may be compared with lepra tuberculosa, while lupus erythematosus answers to lepra maculosa and angioneurotica. Now here comes in the analogy. May not lupus erythematosus really represent the angio-neurotic form of tuberculosis of the skin? The bacillus tuberculosis has not hitherto been discovered in the patches of lupus erythematosus, but, notwithstanding its abundance, the bacillus lepræ is found with the greatest difficulty in the macules of anæsthetic leprosy. May not the bacillus tuberculosis invade the nerve trunks in lupus erythematosus much as the bacillus lepræ does those of the leper, and thus produce those varied appearances which are met with in lupus erythematosus, whether it occurs in the deep, discoid, or localized form, or in the superficial, aggregated and symmetrical variety? This question can only be definitely settled by the microscopical examination of large tracts of the nerve-trunks leading to the affected parts in those rare instances which prove fatal.

Dr. **Edouard Schiff** (Vienna) agreed with Brocq's and Boeck's views in so far as the clinical course and nature of lupus erythematosus bring it into relation with tuberculosis. If we are not altogether in a position to establish this relationship anatomically and bacteriologically, still the considerations brought forward by them are of great importance. Moreover, on careful inquiry into the family history in very many cases of this disease, evidence of tuberculosis is forthcoming. Schiff had two female patients who were affected with lupus erythematosus, and whose general health at the outset was excellent, but who after some years died from tuberculosis.

He supports the view of Malcolm Morris that the affection is inflammatory in nature and may originate in the sebaceous follicles. On the other hand, a marked hyperæmia and hypertrophy of the cutaneous capillaries have preceded the affection of the sebaceous glands by some years. Consequently he does not think that the term "erythema atrophicans" is a singularly happy one, for by erythema a fugitive, transient affection is rather connoted.

The results of treatment would seem to point to two very different forms of lupus erythematosus. For every one of us has had experience of cases that have resisted every line of treatment, and, contrariwise, of those where any treatment, or even none at all, has brought about a complete recovery.

Psorospermial Affections of the Skin.—Professor BOECK (Christiania) opened the discussion on this subject. He confined his observations to the disease described by Darier, of Paris, at the First International Congress, under the title of *Psorospermose folliculaire végétante.* Since the three cases reported by Darier twelve others had been observed, making in all a total of fifteen indisputable cases of the disease. Boeck showed numerous photographs of a case under his own observation, in which the condition began at the age of ten years, and which exhibited typical lesions and symptoms. The seats of election of the eruption were the forehead, the genitals, the belly, back, sacral and sternal regions, and the first lesions were usually situated on the scalp. All the nails were involved and the axillary glands were swollen. All the cases recorded occurred in men. He was unable to agree with Darier's assertion that all the lesions developed in connection with hair-follicles. On the contrary, many undoubtedly were connected with sweat-glands or ducts.

The most prominent feature of the pathological anatomy of the disease was the enormous hyperkeratosis, which penetrated deeply down between the papillæ. The supposed protozöoid bodies, or psorosperms, are found in the Malpighian layer. Bowen considered them merely as imperfectly keratinized epidermic cells, while Buzzi and others could not convince themselves of their parasitic nature. With these latter views Boeck concurred; he was of opinion that the wall of the supposed psorosperm was no other than the cell wall itself, while its contents are certainly eleidine or keratohyaline. These bodies also stain differently from the undoubted coccidia found in the livers of rabbits. Stained, however, with picro-carmine or osmic acid they certainly closely resemble coccidia. While not denying the possibility of the presence of parasites in the degenerated cells, he had never been able to find them, and inoculation experiments had invariably yielded negative results. Boeck's conclusions were as follows:—(1) The presence of psorosperms in the disease called *Psorospermose folliculaire végétante* is not proven. (2) The bodies described by Darier as psorosperms, or coccidia, are merely irregularly degenerated cells.

(3) The hyperkeratosis, which constitutes the most striking feature of the disease stands in some relation to hyperidrosis, as in Tyloma.

Professor **Neisser** (Breslau) thought it wiser to discuss the question of the psorospermial origin of affections of the skin in connection with some well-known and recognizedly contagious disease, such as molluscum contagiosum. He considered the relationship of coccidia to carcinoma as far from being established, and the conclusions of Wickham regarding Paget's disease as untenable. Molluscum contagiosum and Darier's disease presented certain points of similarity, inasmuch as both are purely epithelial diseases which never vesicate or bleb. Molluscum is a type of benign epithelioma, and is also undoubtedly contagious. The cells certainly closely resemble the coccidia from rabbits' livers, and there is colloid degeneration of their contents, while both inside and outside the epithelial layer are bodies exactly resembling coccidia, and even spores. Without being able to offer any absolute proof, Neisser stated his conviction that these bodies are coccidia.

Dr. S. **Ehrmann** (Vienna) next discussed the structures contained in the cells of carcinoma, considered by some as psorosperms, and as the exciters of the disease. He had found similar appearances in the cellular growths of Pemphigus foliaceus vegetans. The bodies were round, sharply contoured, and were present not only in the interior of the cells, but also, lying together in large numbers, separated and compressed the normal epidermic cells. These latter partly become horny, partly undergo a colloid degeneration, which spreads from the periphery to the centre. When whole cells have been thus degenerated they may become confluent, and form large irregularly shaped masses.

These cells and masses are found in the cavities which are present in the epidermic growths, and often hang in them in grape-like fashion. As pemphigus vegetans is utterly different from carcinoma, the speaker considered it impossible that both morbid processes could be evoked by the same cause; he therefore regarded the psorosperm-like bodies in epithelioma and pemphigus vegetans as degeneration products from epidermic cells. Cell growth is very active in pemphigus vegetans, as is proved by the fact that mitoses are always present in great abundance.

On the other hand Ehrmann shared Neisser's view that the changes in the skin in molluscum contagiosum are perhaps the results of micro-organisms like coccidia, possibly of the nature of gregarinæ. Microscopical examination reveals "spores" in the lower layers of epidermics, and also in the middle layers where the "granular bodies," at the first glance, give the impression of structures which do not belong to epidermis, and the idea is further strengthened by clinical experience. The upper layers, which contain degenerative products, are not capable of carrying infection, but the lower layers which contain spores are so. He had observed this in two cases. In one which he had under treatment for scrofuloderma during a prolonged period a molluscum growth persisted for a long time without any infection occurring. After it began to suppurate, however, and the pus was rubbed into the skin, a large number of epitheliomata (mollusca) resulted. In a second case, which came under treatment for gonorrhœa, and in which a molluscum in the pubic region had probably escaped observation, an enormous number of mollusca appeared over the skin of the mons veneris and penis after the patient contracted pediculi pubis. They were arranged in lines corresponding to scratch-marks, and Ehrmann thought it justifiable to conclude that the deeper spore-containing parts had been removed by scratching and inoculated into the skin.

Professor Janovsky (Prague) showed photographs and narrated the details of a very interesting case of Darier's disease occurring in a coachman, aged 32. The lesions first appeared upon the scrotum, and were quite typical. The unusual point in the case was that while spontaneous recovery occurred in some places the disease extended rapidly in others.

Professor Schwimmer (Buda-Pesth) could not confirm Boeck's view that Darier's disease had any relationship to sweating. He strongly advocated the energetic use of caustics, especially of the electro-cautery, in the earlier stages of the disease.

Dr. Török (Buda-Pesth) said that in the first place he wished again to define the position taken up by himself and Tommasoli as regards the psorospermial causation of molluscum contagiosum. There were no proofs of the parasitic nature of the structures in question, evidences of vitality were entirely wanting, cultivation experiments had proved futile, while morphological and chemical differences had been demonstrated between them and the acknowledged psorosperms *e.g.*, in rabbits' livers. Relying upon these facts and upon the colloid-like chemical reaction of the disputed bodies, they had ranged themselves among the supporters of the cell-degeneration theory. Were satisfactory proofs, however, afforded that they were parasitic organisms, the reaction described by him and Tommasoli would be characteristic of the chemical constitution of these organisms. The extremely interesting preparations shown by Neisser did not prove the parasitic theory. Some sections certainly seemed to support the *supposition* that the roundish and oval structures present were spores. On the other hand he would point out that not one of these supposed spores was surrounded by any obvious spore-membrane, so that one had no right to talk of "spore-cysts." Moreover, no further development was to be seen about these "spores," no formation of "navicellar" corpuscles. On the contrary, their number diminished in the more superficial layers. The number diminished from thirteen to sixteen—in the lower layers—to seven and eight, and finally they disappeared altogether towards the surface. This fact is a strong argument against the "spore" theory of the bodies. Török further mentioned that the "nucleus of the amœboid period" of Neisser received no mention in his publications.

The parasitic theory, therefore, remained a pure supposition, which ought to stimulate to further studies; only the future can tell whether they will afford proof of the parasitic conception or not.

The bodies resembling psorospermia in Paget's disease are nothing more nor less than epithelial cells. These increase enormously, partly as the result of a very active proliferative process (which is evidenced by their great augmentation and richness in chromatin, and especially by the exceptionally large number of mitoses of their nuclei), and partly as the result of marked imbibition of their protoplasm, resulting from the inflammatory changes in the skin. Their protoplasm becomes in consequence very clear and finely granular, their shape rounder. A number of the mitoses are "giant mitoses." Various altered white blood-corpuscles escaped into epithelium give rise to figures like psorosperms.

Török also discussed the psorosperm-like bodies found in cancer. He considered them as merely epithelial cells and white blood-corpuscles. He described various forms of nuclear degeneration which led to the formation of spindle-shaped, oval, "navicellar," and circular bodies, which lay either in the nucleus or free in the protoplasm, or in clear vacuoles, either in the nuclei or protoplasm. If the cells break down they become free in the epithelial tissue of the carcinoma; this, however, but rarely happens.

Rodent Ulcer (M. WILLIAM DUBREUILH, Bordeaux).—The number of affections which have lately been designated by the name *Epithelioma* has increased to such an extent that the word has lost all precise signification. On the face, for instance, it is used to describe the most various lesions. It comprehends some most malignant tumours, true and real cancers such as the "cancroïde" of the inferior lip, and other lesions of an essentially different kind, *e.g.*, molluscum contagiosum, called by Neisser epithelioma contagiosum on account of its histological structure. Besides these extreme cases, there is the entire group of "superficial epitheliomas" of the face, which is far from being homogeneous, and shows many examples varying both in their histological and clinical characters.

Amongst the superficial epitheliomas there is a very common type which is known in England by the name of Rodent Ulcer, and has been distinguished by some authors as a special disease, quite distinct from epithelioma. By most of the French and German authors it is considered merely a variety of epithelioma, originating in various ways, with a variable evolution and a tendency to become terebrating and generalize itself. It is nearly equivalent to the "pearly" epithelioma and the sudoriparous epithelioma of Verneuil.

The rodent ulcer begins generally as a hard, pearly nodule, which grows very slowly, and forms a little circular plaque with a sinuous and thickened edge from two to four millimetres in breadth. This border is abruptly raised, of a pale reddish colour with a pearly lustre and peculiarly hard. Its centre presents a little superficial ulceration, nearly dry, with an adherent scab, or is covered by cicatricial tissue studded with hard, pearly nodules similar to those found on the edge. The rodent ulcer may at times become very deep, specially about the nose; there is then a loss of substance uniformly borne by all the tissues, which look as if scooped out. It produces neither suppuration nor lesions in other parts on the skin or the mucous membranes, such as we find in syphilis or lupus; it is a simple ulcerative process destroying the tissues. It cannot be compared to a tumour; the only trace of neoplasm we see is in the thickened edge and in a thin layer covering the ulcerated surface. In the worst cases, those where after ten or twenty years the whole face, skin, muscles, and skeleton is completely absorbed, leaving but a large cavity almost touching the pharynx, there is a sort of growth of the ulceration, but that growth is always moderate and much smaller than in the other forms of epithelioma. Seldom, indeed, except in extremely severe cases, is there any other marked subjective symptom than rather severe pruritus.

The affection, which is found in patients of either middle or old age, generally begins at the inner angle of the orbit, not uncommonly on the nose or the forehead, but, with very few exceptions, is always located to the upper two-thirds of the face.

Whatever may be the duration of the disease, the magnitude of destruction it causes, or the extent of the ulceration, the general health of the body is never impaired. There is never any cachexy, never any enlargements of lympathic glands; on the other hand, if any operation for its removal be incomplete, there is invariably recurrence of the disease. Whatever the treatment of the ulcer, and whatever be the irritation to which it is exposed, it always remains the same, and never becomes a malignant tumour.

Corresponding to these clinical characters we find anatomical ones of an equally clear and precise nature. The rodent ulcer is an epithelioma composed of small cells, grouped in circular or angular lobules. The cells are very small and indistinct at the surface of the lobule; they are arranged radially, and resemble a coat of cylindrical epithelium. They do not present any serrated margin, do not undergo any keratinization, and never form epidermic lobes. However, in the centre they often undergo a special vacuolar degeneration.

The whole of all these peculiarities, the aspect of the lesion, which is an ulcer rather than a tumour, its very slow development, extending over a great number of years, its constant benignity never causing any cachexy or lymphatic infection, and its special histological structure, all concur to assign to the rodent ulcer a distinct place in the extensive group of epitheliomata.

As regards the clinical diagnosis, the aspect of the lesion, its ulcerated and nodular character are often the cause of much confusion with lupus or some tertiary syphilitic eruptions, and this error is unfortunately very common.

Asepsis and Electrolysis in Hypodermic Therapeutics. (Dr. Barthélemy, Paris):—Dr. Barthélemy spoke of the inconveniences of the ordinary hypodermic syringe for the subcutaneous injection of drugs. The piston was generally dry and allowed the liquid to pass above it instead of into the tissues, it was generally dirty, and its antiseptic condition could never be relied on, so that there was no security that the injection (of morphine, ergotine, caffeine, ether, mercury, &c.) would not be followed by an abscess. Moreover, it was filled from bottles which were constantly opened, and of which the contents were frequently old and full of germs, so that it was impossible to rely with any confidence on the accuracy of the dose.

In order to avoid these defects, he had invented an apparatus which was without piston, was readily sterilized, was only used once, and was always ready, and the contents of which were aseptic and accurately measured. It consists of a tube large enough to contain the medium dose per diem for an adult. To the fore end of this a needle of chilled steel is attached, by means of enamel, the hollow being filled by a wire of unchangeable metal so as to block it completely, and the whole protected by a glass sheath fitting tightly on to the tube. The other end of the tube is blown into a bulb. After being sterilized the tube is filled by aspiration with fresh solution, and the bulb end closed in the lamp. After the bulb is broken an indiarubber bellows, in which the air can be sterilized (Richardson), is fitted on to the end, and the fluid is ready for injection. The skin may be washed with soap, the needle is then inserted, and a few squeezes on the indiarubber serve to drive the fluid into the tissues. This takes place drop by drop (oily suspensions in three-and-a-half minutes), or more rapidly (oily suspensions of guaiacol, creasote, mercury, &c., in thirty seconds; watery solutions in fifteen seconds or less). The slow injections are often better borne by the patients, and the speed can be regulated at will to any pace by pinching the indiarubber tube of the bellows. After the withdrawal of the needle the puncture is covered with a piece of antiseptic plaster, and the patients can follow their ordinary mode of life without any fear of the formation of abscesses, provided, of course, that the fluid has been sterilized as well as the tube. If used *for the same patient* and *with the same liquid* the tube may be filled again by aspiration and employed several times, but as the whole apparatus costs little it is better to use a fresh one at each injection, *e.g.*, during the secondary stage of syphilis. A number of tubes reliably sterilized and filled with fresh fluid can thus be sent to any distance, or carried by patients during long journeys, or by doctors on their rounds.

The tube (*flacon injecteur*) usually contains one cubic centimetre, but can be made of half or double that size and graduated.

On the recommendation of Dr. Bouchard, Dr. Barthélemy has had tubes constructed with bulbs at either end. Both are broken and the bellows fitted to one end, and an iridio-platinum needle to the other, which has been specially prepared for it. As the needle can at once be sterilized by heating it to redness in a flame, it can be used continuously for all cases and all kinds of fluids, whilst the sealing of the tube keeps the liquid aseptic for an indefinite period.

For delicate injections and for medicaments which have to be sent to a long distance, it is better to have the glass covering of the steel needle firmly fastened to the tube. The whole apparatus can thus be sterilized completely by exposure to a temperature of 120° C. One part of the glass covering can be made narrow and thin so as to allow it to be readily broken off just before the injection is made.

Already more than two hundred injections have been made by this method with all sorts of liquids, mercurial preparations (especially those of soluble compounds, such as the biniodides and peptonates), creasoted and guaiacoled oils, alcoholic solutions of ergotine and quinine, watery solutions of morphine and caffeine, and of carbolic acid and permanganate of potash, and also injections of ether, and all without a single case of suppuration, nothing more having been observed than a few indurations which were due to the character of the injected fluid.

Furthermore, this apparatus may be used for the study of the electrolytic action of medicaments when actually lying in the diseased tissue. The action of metals and acids which are thus liberated is especially active owing to their nascent condition, and asepsis can be secured in the fluid surrounding the positive pole by the passage of a current of a few milliampères; or, again, attempts may thus be made to act more directly on the nerve-endings, or by promoting alternate contraction and dilatation of the tissues to further the absorption of the injected fluid. To effect this it is necessary that the needle should be continued backward into the tube, so that when the tube has been broken and the liquid injected it can be seized by some form of little pincers attached to the cord from either the positive or negative pole. An iridio-platinum needle should be used so as to avoid the deposit of metal which occurs if a steel needle is used; or the needle may be made of different metals and its decomposition employed therapeutically, as Gauthier employs copper needles to utilize the oxychloride of copper which is formed in the nascent state. But if it is desired that only the deeper tissues should be acted upon, the upper portion of the needle should be carefully covered with a non-conducting varnish or enamel, having the same coefficient of expansion as the metal.

Mons. Eraud (Lyons) read a paper *On the Soluble Products secreted by a Microbe found in Blennorrhagic Pus*, which presents all the morphological characters of gonococcus, but with which it has not actually been proved to be identical. However that may be, he had been able, with the product of an agar culture of this microbe, to fertilize a considerable quantity of bouillon (seven litres) which, after being kept in the cultivation-chamber for eighteen days, was then treated with thirty litres of alcohol at 95°. This furnished two products (1) solid, (2) liquid or hydro-alcoholic. The solid product is the more interesting, as it has all the characters of a tox-albumin. With it in aqueous solution most of the alkaloid reagents of albuminoid substances yield a precipitate. In aqueous solution this substance rapidly decomposes and exhales a peculiar and disgusting odour, quite distinct from that of other albuminoid substances in a state of putrefaction. It appears to be a peptone-derivative, for it only occurs in peptonised bouillon; if the microbe is grown in solutions of urea or of asparagine with the addition of the extractive matters of urine or flesh, no toxic product precipitable by cold can be extracted. It also presents interesting physiological properties; injected into the testicle of the dog, it causes acute orchitis, resulting in suppuration and atrophy of the testicle. It seems to have a selective action on the parenchyma of the testicle.

As to the liquid product, chemical experiments only furnished negative results with regard to its having any special action. Inoculation experiments also were followed by no results.

It is impossible to close our report of the Congress without making some special reference to the kindness and courtesy shown to all its members by the Municipality of Vienna and by our Viennese colleagues.

On Monday, September 5th, a princely *déjeuner* was given by the Burgermeister in the magnificent Rathhaus. On September 6th a gala representation was given at the opera; the members of the Congress occupied the parquet, and were regaled with an exquisite rendering of Mascagni's *Cavalleria Rusticana* and two ballets. Throughout the week the private hospitality was simply unbounded, and our President Kaposi showed himself as much an expert in the art of entertaining as in the practice of his speciality.

The culminating point was attained by the banquet given in the Prater by the Vienna Dermatological Society, where the proverbial Viennese *gemüthlichheit* showed itself in all its brilliancy.

At the last meeting of the Congress, on September 10th, Mr. Hutchinson, in the name of British Dermatology, invited the Congress to hold its third meeting in London, in 1895, and the invitation was cordially and unanimously accepted. On the motion of Mr. Malcolm Morris, Mr. Hutchinson was nominated President of the next Congress, and the proceedings closed with much animation and many expressions of good-fellowship.

More than eighty members, at the invitation of Professor Schwimmer, afterwards travelled to Buda-Pesth, where two highly enjoyable and instructive days were spent, our Hungarian *confrères* vieing with their Viennese brethren in providing all possible entertainment and instruction. The magnificent banquet offered to the Congress by Madame Sax Lehner at Hunjadi Janos, ought not to be passed over without special mention.

It is to be hoped that the profession in London will endeavour in 1895 to repeat the success, both social and scientific, of the Congress of 1892. The task will be no easy one.

CLINICAL NOTES.

CASE OF MULTIPLE CYSTICERCUS OF THE SUBCUTANEOUS TISSUES.

BY P. H. PYE-SMITH, M.D., F.R.S.
Physician to Guy's Hospital.

George Fisher, aged 30, was admitted into Guy's Hospital, under my care, on the 7th of April, 1892. He was a rather short but well-made man with large chest and good muscular development, with scarcely any subcutaneous fat, so that when stripped he looked like an athlete in training rather than a beer-drinking labourer. The skin was soft and white, and the numerous nodules scattered over the surface could be readily felt, and in a favourable light almost as readily seen.

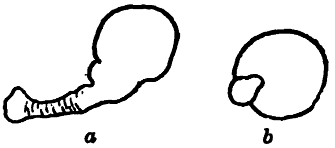
He had enlisted in the army at twenty-one years of age, and had spent six years in service in India and Burmah. He had enjoyed excellent health, with scarcely an interruption, and for more than two years had been very temperate.

He was discharged from the army in April 1891, after nearly eight years' service, and became a labourer in a paper mill. In the following June he was admitted into Guy's Hospital under my colleague, Dr. Goodhart, suffering from epidemic influenza, which was followed by neuralgic headache.

While in the hospital he noticed a small lump on his left arm, and since his discharge, last July, he has seen several others appear on the other arm, on both thighs, on the neck, shoulders, and lastly on the face. At last one appeared near the inner canthus of the left eye, which annoyed him and led him to seek relief.

Mr. Infield, my clinical clerk, counted no less than fifty of these subcutaneous nodules on the face and neck, the trunk and the limbs. Some were no bigger than a pea, the largest appeared to equal a marble in size. The skin moved freely over them. Some were deeper than others, and lay in the connective tissue between the muscles of the arms and legs. These tumours were quite painless; they were rounded, smooth and elastic, and slightly moveable.

I.



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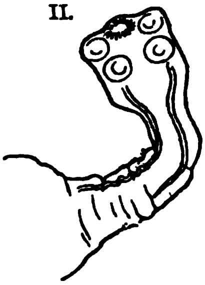

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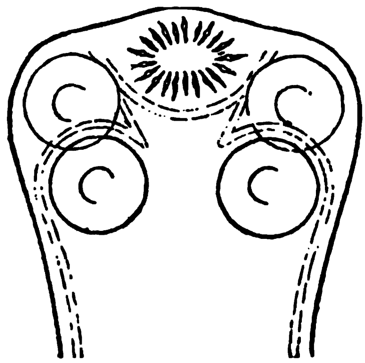

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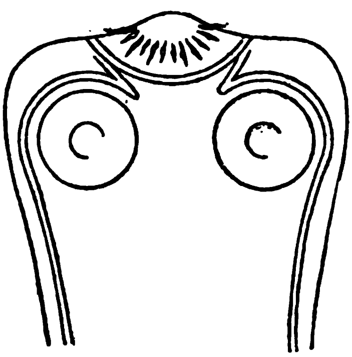

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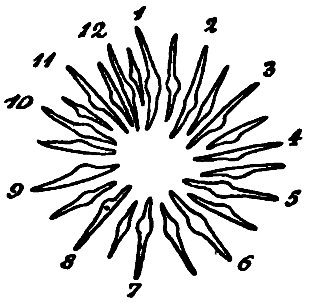

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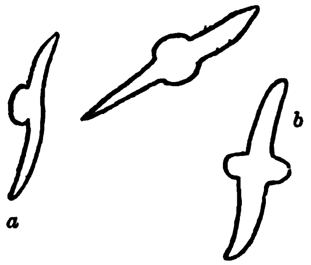

Fig. I.—*a.* With head extruded. *b.* With head retracted. (× 2 diameters.)

Fig. II.—Head under higher power.

Fig. III.—Perspective drawing of the head with two of the suckers seen through the transparent tissue.

Fig. IV.—Diagram in profile of the head with rostellum, hooklets, two suckers, and water vascular canals.

Fig. V.—Enlarged drawing of the circle of hooklets. The twelve larger are numbered; the alternate twelve smaller make up the twenty-four.

Fig. VI.—Hooklets. *a.* From the smaller row. *b.* From the larger row. (Zeiss D. oc. 2.) This figure, with I. and V., were traced with the camera lucida by my house-physician, Dr. F. M. Turner.

I confess that their true nature did not suggest itself to me, nor to several dermatological friends to whom I showed the case. I decided that they were not syphilitic nodes, nor rheumatic nodules, nor sebaceous cysts.

Their numbers and distribution, their non-adhesion to the skin or periosteum, their painlessness and irregular distribution, the absence of any dimple or sign of an obstructed duct, their subcutaneous position, and the perfect health of the patient in other respects, appeared to negative these hypotheses. I could only conjecture that they were fibrous tumours, although they were not pedunculated, and had neither the consistence nor the aspect of fibroma molluscum.

The nodules had been lately multiplying, and in the first week of his stay in the ward several new ones appeared rapidly, one in the ball of the thumb. The patient was anxious to get rid of them, and I had no difficulty in obtaining his consent to the removal of two of them for the purpose of diagnosis; the only troublesome one from its position on the eyelid, and another just below the right clavicle.

Both were found to be cysts, much smaller than they appeared when *in situ;* and when they were opened, on a glass slide, a white object was seen which, under a low magnifying power, showed the unmistakable form of a cysticercus.

The bladder, the neck and the head with four suckers, a rostellum, and a circle of twelve small and twelve large hooklets, arranged alternately, were all easily recognized.

It was at first thought that the species might have been exotic, and have gained an entrance during the patient's life in India. But it seems clear that no nodule was discovered until last June, when he had left the East more than two years, and he gave himself what may be the explanation of the invasion of the parasite, by telling us that he was fond of watercress, and had often eaten it after gathering it himself, of course without being cooked or even washed.

He did not care to have the other little tumours removed; indeed, they were so numerous that it would have been practically impossible. I wished to try puncturing some of the cysts, and think this might have proved successful. He went out of hospital with an injunction to show himself in a month, but we have not seen him nor been able to hear of him at his lodgings.

UNTOWARD EFFECT OF GALLACETOPHENONE.

BY W. DALE JAMES,

Sheffield.

BEING desirous of trying the highly recommended gallacetophenone on an old case of psoriasis which was just commencing a recrudescence, I could obtain only an impure form of the drug; the bottle, which contained a dark brown fluid, held in suspension a greyish or drab powder. This being shaken up, was filtered, the filtrate washed with hot water, deposited by cooling, dissolved and redissolved in æther, and finally made into a 10 per cent. ointment with lanoline. This application gave good results: the spots ceased to extend, the scaling was much lessened, taking place about every third day instead of constantly. When this ointment had been used a fortnight, my chemist failed for nearly a month to get a fresh supply of the drug; and when it did arrive it consisted of powder only—the purified form of gallacetophenone. Fortunately, my caution induced me to have only a 5 per cent. ointment made from this, and a 10 per cent. solution in æther.

The patient was at this time fairly comfortable; a little anxious lest the disease should recur with its accustomed violence, but not actually suffering.

On the night of May 31st, 1892, he applied the ointment between 12 and 1 A.M., to the hands, forearm, outside of the right thigh, and to three small spots on the body, as well as the 10 per cent. æthereal solution to an old indurated patch on the right knee. At a quarter to four in the morning he was awakened suddenly to find himself in burning torment; wherever the application had been made it had acted like a blister, and the skin peeled off from his hands and right knee in long shreds, while that surrounding the psoriatic areas was acutely inflamed.

He got up and applied lead lotions freely to all the affected parts, but passed a sleepless night in great pain. The next day, being compelled to attend to business, he dressed the skin with vaseline, but was obliged to go to bed and submit himself to treatment. This consisted of the application of lead lotion, lead ointment and prolonged baths. On the 7th the extension had ceased, the irritation was much less, but there was very free desquamation and pain, especially at the flexures. A zinc-ichthyol ointment was applied, as a tendency to moisture on their surface became evident. This set the mischief going again, and the patient became greatly exhausted by pain, loss of sleep, and inability to take food.

On June 12, Dr. Brooke, of Manchester, kindly saw the case, and prescribed baths of starch, soda and borax, which gave immediate relief. After the bath the body was anointed with an ointment containing glycerine of the subacetate of lead, liq. carbonis detergens and vaseline. The inflammation gradually subsided, and at the present date the full area of the attack is mapped out as a red, dry dermatitis, with very free branny desquamation; the old psoriasis patches have a tendency to shed a larger scale than the rest of the area, but are in no other way distinguishable by sight or touch.

The most curious fact about this occurrence is, that the inflammation took, in the hands, the typical course of cheiro-pompholyx, and they have not yet entirely healed. The patient asserts that a former prolonged and severe attack of psoriasis of the whole of both hands began suddenly during a picnic in hot weather, with the onset of cheiro-pompholyx.

There was no condition of general health which could be indicted as responsible for the difference in action of these two supplies of the drug, which was obtained through a leading London house; and I publish this as a warning for caution in its employment.

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DECEMBER, 1892.

A CASE OF XERODERMA PIGMENTOSUM, WITH POST-MORTEM EXAMINATION.

BY T. M'CALL ANDERSON, M.D.

Professor of Clinical Medicine in the University of Glasgow.

In the *British Medical Journal* for June 8th, 1889, I published the Notes of a Case of this rare form of disease. The following is a brief outline of it when it was first under observation. (For further particulars see the journal mentioned.)

A healthy boy, aged 9, came to me on June 13th, 1887, with an eruption on the face, neck, forearms, hands, legs and feet. His family history was good, save that his only sister was similarly affected, and had been carried off by some chest affection at the age of nine.

At the age of two a number of freckles made their appearance upon his face and neck; they entirely disappeared during the winter months, but returned each summer with increasing intensity. At last they became permanent, and for several years had been very dark—at parts almost approaching black. Soon after the onset of the pigmentation of the face and neck, the other parts mentioned above became similarly affected and pursued the same course. Within ten months of my first seeing him new features appeared upon the face, and upon it alone—viz., (1) little reddish vascular spots, (2) cicatrical spots, and (3) here and there small warty-looking nodules.

On admission the characters of the eruption on the face were as follows :—The whole skin is very much darker than natural, and is profusely studded with deep pigmented spots of irregular outline and varying depth of tint. Some of them are as small as pins' heads, others as large as peas, and in some places they seem to have coalesced, thus forming tracts of larger size. Between the pigmented spots little red non-elevated patches are to be seen, having a stellate appearance, and composed of dilated capillaries (telangiectases). In addition to these, though much less numerous, are observed small, white, glazed, atrophic areas, mostly surrounded by a zone of dilated capillaries. These are very irregular in shape, and vary in size from that of a split-pea to that of the finger-nail. Lastly, a few small, rounded nodules, which are very distinctly elevated, and have a diameter of from one to two lines, are scattered over the face. Some of them are papular in character, while others have ulcerated, and are more or less covered with crusts. The largest and most striking of these appeared upon the inner side of the left eye-ball, and was removed by Dr. Reid. It soon, however, reappeared, extended rapidly, and destroyed the eyesight. Finally, the eye had to be enucleated. The nodules on the face were decidedly kept in check, and a few of them completely disappeared, as the result of the application of salicylic plaster.

A chromo-lithograph of the patient accompanied the description of the case in the Journal, as well as woodcuts of the microscopical appearances of sections of the growths which showed the typical epithelial processes and laminated capsules of epithelioma. This boy remained in the Western Infirmary till June 1888, and then returned home, there being no material alteration in the appearances, and the general health remaining excellent.

* He was readmitted on April 20th, 1891. His general health was still good. but the disease had again become active. A fungating growth had appeared on the right side of the nose, near its tip, and there was a tumour about the size of a walnut in the substance of the right cheek, in front of the ear. During his stay in the Infirmary this tumour became fluctuant and was opened, giving escape to a quantity of thick, creamy pus. The wound showed no tendency to heal, and the nasal growth, though checked for a time by the application of aristol, ultimately commenced to spread and to destroy

* Reported by Wm. R. Jack, M.B.

the tissues. An indurated mass formed in the left side of the upper lip, ulcerated, and gave rise to similar fungous granulations, which also appeared in the edges of the wound upon the cheek. All three sores continued to spread and destroy the parts around them, that on the cheek extending backwards to the auditory meatus, and downwards below the ramus of the jaw. The tumour on the lip prevented the ingestion of solid food, and liquid nourishment could, after a time, be taken only with difficulty. A sinus formed between the nasal and oral cavities, and the upper lip sloughed away from the alveola on the left side, forming a large pendent flap which interfered with breathing and eating. It was therefore removed, as were the incisor teeth, which lay loosely in their sockets. Emaciation now set in, and progressed *pari passu* with the progress of the ulcers. The palatal and superior maxillary bones were attacked, and on the right side the ramus of the jaw and the carotid artery were laid bare. The freckles upon the neck, arms and legs, meanwhile, remained in the same condition as before. By the end of April, 1892, the two anterior ulcers had completely coalesced so as to form one large triangular excavation, extending from slightly above the root of the nose to the lower lip. The nose and upper lip had completely disappeared, leaving the naso-oral cavity exposed to view. The edges of the ulcer were much indurated, red, and protruding considerably above the surrounding skin, which was infiltrated for a considerable distance. Its floor was irregularly eaten out, and exuded a dirty-yellowish and foul-smelling pus. The ulcer upon the cheek presented similar characters, involving the external meatus, the zygoma, and the ramus of the jaw. Some time previously an abscess, which had formed behind the right ear, was opened and drained. The patient gradually became more and more emaciated, and died on Sept. 26th, at the age of 13, from a slight hæmorrhage from one of the small vessels of the neck. To the end there were no head symptoms, nor was there any rise of temperature.

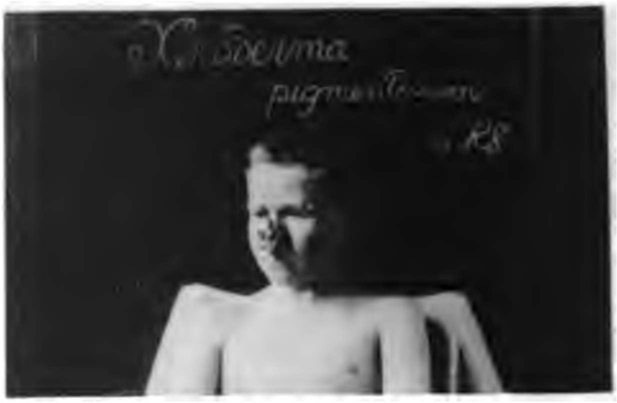
The autopsy, which was conducted with great care, yielded the following results :—The two ulcerating cavities had coalesced to form one huge excavation, the greatest depth of which in the face was about 1½″, in the neck about ¾″. The destruction involved the external auditory canal and the lower portion of the temporal bone, the zygoma, which had entirely disappeared, the posterior half of the lower jaw, including the condyles, the palatal and the superior maxillary bones. In the upper part of the floor of the ulcer, behind the right orbital plate, there was an opening admitting the point of the finger, into which a probe passed easily 1″ upwards and 3″ in a backward direction.

The membranes of the brain were œdematous. On the removal of the brain the anterior part of the under surface of the temporo-sphenoidal lobe was found to communicate with the floor of the ulcer through the above aperture. Almost the entire floor of the middle fossa was ulcerated away, and the membranes were firmly adherent round the gap, limiting the extent of suppuration in the brain substance. Suppuration did not involve the lobe deeply. There was no infiltration in other parts of the brain or membranes. The gap in the middle fossa measured 2″ by 1½″. There was also a large gap in the lower part of the frontal bone, measuring 1½″ by 1″. The anterior part of the ethmoid and of the nasal bones was destroyed. The left optic nerve was atrophied and soft as compared with the right (the corresponding eye had been enucleated in 1887).

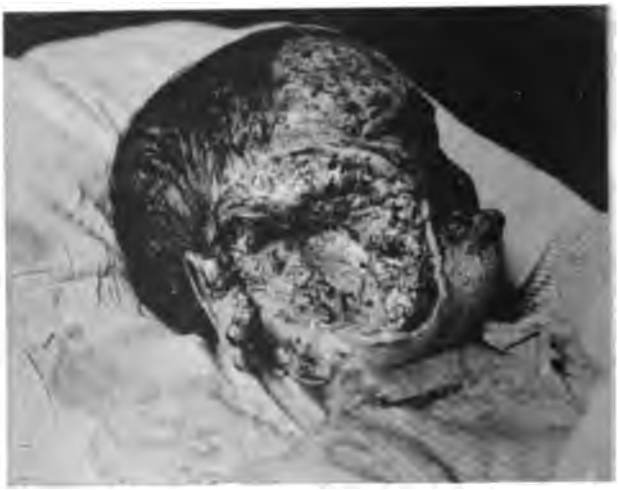
There was no lesion in any of the other organs.

REMARKS.—This case, which was almost continuously under my observation for several years, is a typical illustration of an interesting and very rare form of disease. Not more than sixty cases have been recorded up to the present time, and as many of them occurred in several members of the same family, the number of families in which it has been met with is very small indeed. In most cases, when more than one child is affected, the sex of the patient is the same, but my patient's sister was similarly affected, although she was cut off by an intercurrent disease.

One of the most remarkable features of the complaint is its apparently innocent and trivial appearance during the earlier years of its existence, in strong contrast with its terrible character as the fatal issue slowly, though relentlessly, approaches. For I do not think that I have ever encountered such widespread and ghastly destruction as this poor boy's face presented during the last month of his illness (as shown by the accompanying photographs). It is particularly to be noted that the general health remained unimpaired during the greater portion of the illness, and only began to fail when the destruction of tissue becomes extensive, the two conditions progressing *pari passu.*



I.



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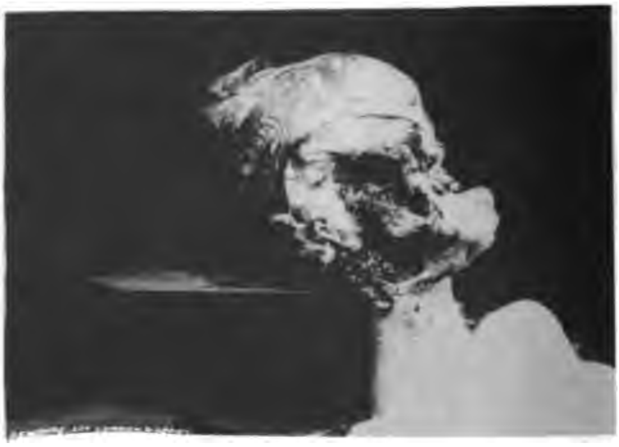

III.

Different opinions have been expressed with regard to the nature of the new growths, and possibly it may be that they are not identical in every case, but, in my case, there can be no doubt that they were typical illustrations of epithelioma. It is difficult to see what connection there can be between the pigmentary stains with which the disease commences and the malignant growths which ultimately destroy life, although we know that pigmentary moles are rather prone to become epitheliomatous in advancing years.

I was much interested in the results of the "post-mortem" examination, thinking it highly probably that similar growths would be met with in some of the internal organs, although there were no symptoms of such a condition during life. But I was surprised to find that the other organs and tissues of the body were unaffected.

DESCRIPTION OF PLATE.

FIG. I.—Condition one year before death. October, 1891.
FIG. II.—Condition six weeks before death. September, 1892.
FIG. III.—Condition after death. October, 1892.

POST-MORTEM APPEARANCES IN CASES OF YAWS.

BY BEAVEN RAKE, M.D., LOND.,
Medical Superintendent of the Trinidad Leper Asylum.

THE publication of Numa Rat's essay on Yaws[*] and the prefatory remarks by Jonathan Hutchinson have again raised the vexed question as to its relation with syphilis. Eight years' experience of the disease has impressed me very strongly with the opinion that it is totally distinct from syphilis, but I think the matter is still sufficiently doubtful to demand that all evidence which can throw any light on the subject be brought forward.

A point which apparently has not been sufficiently examined is the condition of the tissues and viscera as seen after death in cases of yaws. Naturally the opportunities for making necropsies are somewhat rare, for yaws is seldom fatal unless complicated with other diseases, and persons affected being usually treated as out-patients are lost sight of when the cutaneous lesions are healed, and often before even this has been attained.

Alibert[†] records a post-mortem examination of a native of Hungary who had suffered for about six months with *pian ruboïde*. He had been a soldier for three years, but it is not stated in what part of the world he had served. On each side of the larynx was found an ovoid shining tumour about four inches in length and six inches in circumference. In the centre of each tumour was reddish, thick puriform matter. Other smaller swellings of a similar nature were found near these. The mucous membrane of the superior and posterior part of the pharynx was eroded, and there was engorgement of the nasal fossæ, larynx and upper part of the œsophagus. The contents of the cranial, thoracic and abdominal cavities were normal.

It is somewhat remarkable that the only two cases of supposed yaws described by Alibert were in Europeans. One case which he calls *pian ruboïde* occurred in a Hungarian as above described. The second case, which he classes as another variety—*pian fungoïde*—was in a Frenchman. The plates which he gives of these two varieties hardly represent what is recognized as yaws in the present day, but correspond to the disease known as mycosis *vel* granuloma fungoides. The appearances noted in Alibert's post-mortem are highly suggestive of breaking down gummata accompanied by syphilitic ulceration of the pharynx. In this connection it must also be remembered that yaws is extremely rare in white subjects.

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[*] "Yaws, its Nature and Treatment." 1891.

[†] "Maladies de la Peau." Paris, 1825, p. 146.

Rat* gives no account of post-mortem examinations, nor does he describe any fatal cases.

Tulloch,† out of seven hundred and sixty-three consecutive cases treated in Tobago during two years, states that only three deaths were reported to him as directly due to yaws. He also makes no mention of any post-mortem examination. He says, however: "Where strumous, weakly children are affected, and, as is too often the case, are neglected by their parents, death frequently supervenes on extensive ulceration and exhaustion, or the child, weakened by the malady, may readily succumb to some other disorder."

Radcliffe Crocker‡ says: "Bad cases lead to death by exhaustion from the extent of the eruption, which breaks down into deep, rapidly spreading ulcers, and the constant discharge of these and the disintegrating tubercles; or death may occur from pyæmia, septicæmia, or intercurrent inflammations. Except under such conditions the internal organs are unaffected, and it is seldom fatal if properly treated."

Hirsch§ makes the following remark: "It is doubtful whether the internal organs (lungs, liver, spleen, kidneys), are affected by the disease as is believed by some (v. Leent); the occurrence of these visceral lesions and the fatal result of them may be always referred to the diseased conditions, either existing coincidently with yaws or appearing intercurrently."

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* *Op. cit.*

† "Report on Yaws in Tobago," 1890, p. 10.

‡ "Diseases of the Skin," p. 533.

§ "Geographical and Historical Pathology," New Sydenham Society, Vol. II., p. 103.

I happened the other day to see the body of a negro child, aged six years, who had suffered from yaws for four years, and who had died apparently from exhaustion. The child was thin and anæmic, and there were numerous cicatrices on the body. All the yaw tubercles were healed, and there had been but little loss of tissue. Other children in the house had yaws. The parents had used native medicines and had not consulted a doctor. Unfortunately the case was ten miles away in the country, and I was without instruments, so the necropsy had to be abandoned.

This case, however, suggested very strongly the necessity for obtaining more definite records of the visceral appearances in yaws than are to be found in any of the monographs or text-books. I therefore looked through the notes of autopsies made by me at the Trinidad Leper Asylum, and succeeded in finding four cases in which the patient had suffered from yaws for a longer or shorter period during life. It may be objected that in all these cases there was more or less disappearance of cutaneous yaw tubercles under treatment with mercury and potassium iodide, and that, therefore, it is possible that visceral or other gummata may have also been absorbed. When it is remembered, however, that cutaneous lesions are far more accessible than those of the viscera, and are therefore more quickly amenable to treatment, I think the above argument loses much of its force. In no case was specific treatment continued for any great length of time; indeed, the first case died with the yaw eruptions still out. Though these cases can only be regarded as a very meagre contribution to the literature of the subject, they may perhaps be worth putting on record, if only as a precursor of what I hope may one day be a longer series.

Case I.—Chikuri, a male Hindu aged thirty-five, was admitted to the Leper Asylum on August 25, 1886. He was an opium eater, and much wasted. He had anæsthetic leprosy of ten years' duration. On the forehead were two swellings becoming pustular. The ears were covered with thin yellow crusts. The skin of the upper extremities was rough and dry, and there were several swellings covered with scabs. The ulnar side of the right wrist was covered with small pustules. On the lower extremities the skin was rough and papular, the papules in places being large and resembling cured yaws. The femoral and axillary glands were enlarged.

The patient was put on a generous diet, and given quinine and brandy, with camphor liniment for the skin. No specific treatment was adopted till December 27, when the yaws were found to be increasing. He was, therefore, ordered 15 grains of potassium iodide in 30 minims of compound tincture of cinchona three times a day.

On January 17, 1887, he complained of pains in the throat, so the iodide was stopped, and 30 minims of compound tincture of camphor given three times a day. The yaws went on increasing till February 2, when they began to dry up.

On February 11 it was noted that they had gone from the face and were drying on the fingers. From this date he gradually became weaker, and died on March 17.

At the necropsy the body was found to be much wasted. There were scars of healed yaws on the face and extremities. On the fingers were scales and punctiform depressions, containing more or less purulent material. These appeared to be the remains of that unusual form of eruption described by Imray* as *pian gentelle.* The two hands showing this eruption were sent to the University College Museum. The toes were ulcerated and scabby, and showed the remains of yaws.

At the left base was an encysted pleurisy containing about a pint of reddish fluid. The pleura was fleshy and much thickened, and septa ran across the cavity. The left lung was pressed upwards. Both lungs were full of small grey tubercles. All the other viscera were normal.

Case II.—Larati, a female Hindu, aged 50, was admitted to the Leper Asylum on February 3, 1885. She was a fairly nourished woman, with mixed leprosy of three years' duration. The skin of the trunk and extremities was rough and scaly. On the lower extremities were vesicles and pustules the size of pins' heads.

On February 1, 1886, she was found to have a copiously weeping eczematous condition of the legs, in some places suggesting yaws. It was ascertained on inquiry that at the end of the preceding November she had slept in the bed adjoining that of Sukur, the next patient.

On February 15 the diagnosis was confirmed. Yaw tubercles were spreading over the legs, and in many places becoming confluent. In others they appeared as small papules with yellow crusts on the summits. She was ordered mercury ointment, and five grains of potassium iodide with 80 minims of liquor hydragyri perchloridi in one ounce of infusion of quassia three times a day. By March 17 the yaws had nearly dried up. On the 26th they began to ulcerate again, but soon after this they disappeared and did not recur.

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* Fox and Farquhar, "Skin Diseases of India," p. 8.

At the end of 1886 pain and enlargement of the liver were noticed. From this date she gradually sank. Albuminuria and ascites supervened, with cough, and bronchial breathing and dulness at the left apex. The second sound of the heart was very loud and harsh in this situation. She died on April 13, 1886.

The necropsy showed no evidence of yaws on the skin. The median nerves were thickened and the femoral glands were much enlarged. The epiglottis and larynx were congested and ulcerated. The lungs were full of miliary tubercles, and there were also tubercles on the pleuræ. The kidneys weighed 16 ounces. They were of the large white variety, and contained small yellow tubercles. The spleen was 16 ounces in weight, and contained yellow masses about a quarter of an inch in diameter immediately under the capsule, apparently large tubercles. The liver contained generally diffused small yellow tubercles. The omentum was much thickened and filled with tubercles. The peritoneum also was covered with tubercles, and contained a good deal of fluid.

Case III.—Sukur, a female Hindu aged 35, was admitted to the Leper Asylum on April 30, 1885. She was a fairly nourished woman with tuberculated leprosy of one year's duration.

On November 25 she was found to have yaws at the back of the right heel. She was ordered mercury ointment. On December 9 it was noted that the yaws were drying up, but there was a fresh one in front of the ankle.

On February 15, 1886, yaw tubercles were breaking out again on the face, legs and wrist. She was ordered 10 grains of potassium iodide in 20 minims of compound tincture of cinchona, three times a day. The mercury ointment was continued.

On February 24 she was salivated. By March 1 the yaws were nearly dry, but the gums were still blue and painful. On March 29 the yaws had healed.

On October 1 they were found to be reappearing. On the 15th pain in the joints was noted, and on December 6 yaw tubercles were reappearing in the feet. By January 8, 1887, they had in great part dried up under the same mercury and iodide treatment as before.

On March 25, yaws were breaking out again on the extremities. She was ordered 5 grains of potassium iodide and 80 minims of liquor hydragyri perchloridi in one ounce of infusion of quassia three times a day, with vaseline locally.

By January 16, 1888, the yaws had gone, but large firm leprosy tubercles were left on the feet and hands. After this she was not troubled with yaws. The leprosy made steady progress, the larynx becoming invaded with leprous growth, and she died asphyxiated on March 30, 1889.

The necropsy showed large masses of tubercle on the feet and toes, as well as on the hands and fingers. The femoral glands were enlarged, and the median nerves thickened. There was no evidence of yaws. The epiglottis, larynx and vocal cords were ulcerated, and there was much thickening and ulceration of the mucous membrane below the vocal cords, blocking the lumen of the trachea. The viscera were healthy.

Case 4.—Sibu, a male Hindu aged 42, was admitted to the Leper Asylum on March 1, 1887. He was somewhat wasted, and had suffered from anæsthetic leprosy for five years.

On May 1, 1888, a large yaw tubercle was found on the ball of the left great toe. No yaws were found anywhere else on the body. He was ordered mercury ointment, locally, and the usual mixture of potassium iodide and mercury perchloride internally.

On June 7, 1889, a yaw tubercle was found on the right sole and another on the right great toe. That on the sole was excised. The skin round it was cut away, and the remaining raw surface was cauterized with nitric acid. The yaw tubercle on the toe was also cauterized with nitric acid. On June 10, more of the yaw tissue was scraped away. He was again ordered mercury ointment. On July 29 a bistoury was passed through a perforating ulcer of the right foot and all the tissues were divided forward, the bistoury being brought out between the toes. The wound was stuffed with lint, and healed in about a month. After this the yaws disappeared and did not recur.

On May 16, 1892, diffuse inflammation of the left arm and forearm set in. Suppuration followed, and he sank on May 25.

At the necropsy the body was found to be fairly nourished. There was a firm cicatrix in the right foot, where the ulcer had been incised. The left forearm and arm up to midway between the shoulder and elbow were riddled with abscesses. The tissues about the elbow were gangrenous. The viscera were absolutely healthy.

The duration of the outbreak of yaws varied considerably in the above four cases. In the first it was six months, in the second three months, in the third case yaws appeared irregularly during a period of two years and two months, while in the last case only three yaw tubercles were found, the first tubercle being followed by the other two at an interval of a year.

It must be remembered, however, in connection with all these cases that the first patient came into the Asylum with yaws, and that in the other three cases there had very possibly been other outbreaks before admission, for recurrence—or perhaps it would be more accurate to say quiescence—is very common in this disease.

In none of the patients was anything found like the primary chancre of syphilis, nor were there tertiary symptoms such as deep and obstinate ulceration with destruction of bone, or gummata in the subcutaneous tissues or viscera. It is true that the fourth patient was the subject of a perforating ulcer, but this was probably referable to the leprosy from which he was also suffering. It is well known that perforating ulcer is a very common symptom of leprosy.

In case ii., who apparently became infected from case iii., the legs seemed to be the seat of inoculation, and the disease first appeared as an aggravation of a previous eczematous condition. In case iv. death eventually supervened from diffuse suppuration of the left upper extremity, but this in no way resembled gummata in the tissues.

In cases iii. and iv. the internal organs were healthy, while in cases i. and ii. there was visceral tuberculosis. The only question which could arise as to gummata was in case ii. The spleen contained yellow masses under the capsule, about a quarter of an inch in diameter. In view of the fact that the other viscera were tuberculous, these growths where however probably large yellow tubercles.

If yaws is syphilis and has a tertiary stage one would expect to find gummata in the connective tissue, muscles, periosteum and viscera.

These lesions I have never found during a considerable experience of the disease both in and out of hospitals, nor have I seen anything to suggest a primary chancre such as is seen in syphilis.

Attempts to communicate the disease to animals and to isolate and cultivate a specific bacillus have failed in my hands. It must, however, be conceded that this failure,—Lustgarten's bacillus notwithstanding,—would equally be expected in the case of syphilis.

Lastly, the fact that yaws and syphilis yield to the same specific drugs cannot be regarded as an argument for their identity, for it is well known that arsenic will cure psoriasis, pemphigus and some cases of malarial fever, diseases which apparently are even more widely separated than syphilis and yaws.

CLINICAL NOTES.

BY WALTER G. SMITH, M.D., DUBLIN,

President of the Royal College of Physicians of Ireland, Physician to Sir Patrick Dun's Hospital.

Three cases of unusual complications of pulmonary phthisis, implicating the skin or mucous membrane, recently came under my observation at the same time, in Sir Patrick Dun's Hospital. I had not previously met with any of them, and, on account of their rarity, think that brief notes of them may not be out of place.

Case I.—*Occurrence of subcutaneous emphysema.*—Mary C——, aged 32, admitted 25 May, 1892, suffering from severe and continued hæmoptysis. For the past year she had been losing flesh, sweated at night, and the catamenia had ceased for five months. Nearly six months before admission she had an attack of influenza, which was succeeded by a persistent cough.

Upon the first day of the hæmoptysis, and without any violent cough or exertion, she felt a sudden swelling on the right side of the neck, extending to the ear. The neck was tender to touch, and she could scarcely swallow. When she spoke, or moved her neck or jaw, she perceived a curious crackling sound in her right ear. Her sister stated that the patient's face had been swollen, and it appears that at first the left side of the neck was also tumefied. Upon the day of her admission Dr. Kennedy, the House-Surgeon, remarked that crepitation could be plainly elicited by gentle pressure above the right clavicle, and up the side of the neck, but there was no perceptible swelling. This crepitation lasted about three days after admission, and then disappeared. The hæmoptysis recurred with violence, and she died rather suddenly.

Remarks.—Apart from external injuries, cutaneous emphysema is observed most strikingly in cases of rupture of the œsophagus, attended with laceration of the pleura (Fräntzel). It also occasionally occurs as the result of ulceration of the larynx in typhoid fever (case of Dr.

Addison's, reported by Dr. Wilks, *Trans. Path. Soc.*, Lond., ix., 1858, p. 34). Although not unseldom met with in early childhood in connection with whooping cough, everyone will admit that it is a rare incident in the course of ordinary phthisis. Dr. Roger, of Paris, investigated this question in 1862, and, out of a total of nineteen cases of subcutaneous emphysema, which he was able to collect, more than half of them were reported as due to whooping cough. (Abstract of Roger's paper, *Lancet*, 1862, I. p. 316).

CASE II.—*Tubercular ulcer of tip of the tongue.*—Kate B——, cook, æt 36, admitted March 23, 1892. She had suffered from cough for about two years, and had become thin and weak. There were physical signs of advanced disease in the upper part of each lung, and tubercle bacilli were found in the sputum. There was no lesion of the mucous membrane of the lips, gums, palate, or pharynx. She was not hoarse, and the larynx was not examined.

At the tip of the tongue, situated almost symmetrically, there was an ulcer, which, she states, had existed about eight months. It is painless except when irritated by eating, or by drinking hot liquids.

Characters of Ulcer.—Triangular in form, base above. Its greatest length was 13mm.; width, 11mm. Its edges were thickened, irregular and bossy, and dotted with vivid red fungiform papillæ. The floor of the ulcer was irregular, and studded with pale red granulations, appearing through a tenacious yellow exudation.

There was no other morbid appearance except a moderate amount of whitish fur on the tongue.

Iodoform was locally applied, and, for a time, seemed to improve the condition of the ulcer, and some attempt at repair was perceptible; but no permanent good was gained, and the ulcer, left to itself, underwent little change in the course of some weeks. The base assumed a more gelatinous appearance.

Remarks.—Lupus is seldom seen on the tongue, and no allusion to the occurrence of ulceration of the tongue is to be found in Louis' "Researches upon Phthisis." In Great Britain the subject of tubercle of the tongue has received scant attention compared with that paid to it in France and Germany. Mr. Arthur Barker has given us an admirable paper in the *Trans. Path. Soc.*, London, xxxv., 1884, p. 169. Appended to it is an analysis of fifteen cases, with bibliographical references. In Neuman's "Atlas der Haut Krankheiten," 1890, Tafel L, there is an illustration of a tuberculous ulcer of the tongue in a man who was admitted into the clinic for syphilis. The ulcer was of irregular shape, and was situated on the left side of the tongue. Subsequently the disease attacked the right side.

In regard to the question of diagnosis between tubercular and syphilitic ulcers of the tongue, it should be remembered that lingual ulcers of undoubted tuberculous nature sometimes show a tendency to heal (Bowlby).

Sir James Paget (*Med. Times and Gazette*, 1858), seems to have been the first, in these countries, to clearly recognize and describe tuberculous ulcer of the tongue, and several cases have since been reported to the Pathological Society of London (*vide Trans.*, 1876–90),* Eight years previously, however, Dr. Christopher Fleming, of Dublin, in a paper on "Inflammatory and other Affections of the Tongue" (*Dublin Quart. Journal*, 1850, x., p. 87), related three cases of what he termed "tubercular" or "lupoid disease" of the tongue. Still the affection is undoubtedly rare, and Mr. Butlin (*Diseases of the Tongue*, 1885, p. 98), observes that this "disease is so uncommon that at intervals it excites an entirely new interest, and is described almost as if it were a new disease."

An excellent coloured illustration of a tuberculous ulcer of the tip of the tongue in a woman, 45 years old, is given in Fig. 2, Plate III. of Mr. Butlin's work. Its characters are almost identical with those of my own case, and the sex of the two patients may be noticed, for the disease attacks women less frequently than men. (Eleven males, four females, Barker).

The ulceration of the tongue is, as a rule, secondary to tubercular disease in the air-passages, and may possibly be caused, as Mr. Jessett has suggested (*Trans. Path. Soc.*, London, xxxv., 1884, p. 162), by inoculation from the sputa infecting a crack or sore on the tongue.

CASE III.—*Extensive pigmentation of the skin.* (Notes by Mr. Griffiths).—A fairly nourished man, æt. 60, admitted 31 March, 1892. He had suffered from a cough from the beginning of the year. Physical signs of early consolidation of the apex of right lung were detected.

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* No case is recorded in the first twenty-five volumes of the *Trans. Path Soc.*, London.

The right epididymis was hard and nodular; the spermatic cord on each side was thickened. The urine was acid, and deposited a small amount of pus. The sediment was examined by Dr. Parsons more than once for tubercle bacilli, but with negative results. There was little or no sputum, and it was not examined. Heart, normal. Nothing abnormal to be made out about the liver or spleen.

The feature in his case, that at once attracted attention, was the remarkable coffee-coloured discoloration of the skin. According to the patient's statement, the pigmentation was noticeable only a few weeks before admission.

Characters of Pigmentation.—The pigmentation covers the whole of the chest, front and back, and extends up on the neck, gradually fading away, so that one cannot find a definite line of demarcation between the pigmented and unpigmented portions. The face, which is naturally of a ruddy and somewhat weather-beaten appearance, does not appear to have any abnormal distribution of colour. Half-way between the ensiform cartilage and the umbilicus, the dark patch is narrower, extending from the middle line for 4 inches to the right and 5½ inches to the left. At the level of the umbilicus the patch measures 3½ inches on each side of the middle line. Half way between the umbilicus and the pubes it is 4½ inches to the right and left of the middle line. There are thus left two bays of white skin, one on each side; these seem to be produced by the extension outwards of the dark portions above and below, since the angles of the promontories are sharp, whilst the concavities of the bays are gentle curves; the edges here are irregular, and the white portions of the skin seem whiter than is natural for a man of his age and complexion. The back is completely covered by pigment, with the exception of a white cross, situated medially; the long bar of this extends from the ninth dorsal vertebra to the cleft of the nates; the cross-bar is situated at the level of the middle of the sacrum, and is four inches in length. On each flank is a large patch of mottled appearance, consisting of pigmented skin on which are irregularly circular white spots. The shoulders were completely covered by the discoloration, which extends down the arms to slightly below the elbows, affecting chiefly the extensor aspect. The pigmentation extends from the abdomen and back on to the thighs, but the white bays send each an offset of about two inches in length down the antero-external aspect. The external genital organs do not seem more deeply coloured than normal, and each axilla is occupied by a white spot. There are isolated dark spots on each ankle and on the tibial side of the right leg. An isolated white spot of about an inch and a half in diameter, is situated on each mid-axillary line about three inches below the axilla.

The colour of the pigmented portions is a pretty uniform light coffee-colour, except in the parts mentioned above as mottled. The white patches are remarkably symmetrical.

The epidermis is not thickened nor is it scurfy; it seems normal in every respect, except colour. It was noticed that there was no axillary hair. Dr. Purser examined scrapings of the epidermis microscopically, after the patient's admission, but found no evidence of tinea versicolor nor of any other parastic disease. The patient left hospital on June 20, and, about a fortnight afterwards, when he came up to report himself, the pigmentation was decidedly lighter in colour. The site of a test-blister, applied while in hospital, was slightly darker than the surrounding parts.

Remarks.—Marked pigmentation of the skin in connection with the tuberculosis has been especially noticed by French writers (Jeannin, Noël Guéneau de Mussy). Elsewhere it seems to have attracted little attention, and the only English contribution to the subject, that I know of, is an interesting paper by Dr. F. W. Andrewes (St. Bartholomew's Hosp. Rep., xxvii., 1891, p. 109), on "Two Cases of Tuberculosis with unusual pigmentation of the skin, and deposit in the suprarenals."

Dr. Andrewes' cases occurred in two brothers, who were nearly of the same age, and who died within a month of each other, one of general tuberculosis, the other of chronic pulmonary phthisis.

In the elder patient the suprarenals are described as "somewhat wasted, the left more so than the right, with irregularity of the normal markings, and one or two small deposits, (?) tubercular." The adrenals were not examined for tubercle bacilli. In the case of the younger brother, "microscopical examination showed in the suprarenals characteristic tubercle, in parts quite degenerate." The distribution and character of the pigmentation in Dr. Andrewes' cases were much the same as in my case. In all three cases the pigmentation differed from that commonly associated with Addison's disease, *viz.*, in topography, and in the sharp definition of the pigmented spots and patches.

REVIEW.

TRAITEMENT DES MALADIES DE LA PEAU.*

IN the preface to the first edition of this work Dr. Brocq states that his aim was to furnish an essentially practical work addressed to medical practitioners generally, and to familiarize them with the most approved methods of treatment of diseases of the skin. How fully successful the author has been in attaining the objects he had in view is well known to all dermatologists. The appearance of a second edition eighteen months after the first is a further proof of his success, and we take this opportunity of offering him our hearty congratulations.

As the former edition has been already reviewed in our columns it is unnecessary to present any criticisms on the general scope and arrangement of the volume, and we limit ourselves to one. It is most important that a work of this kind should be kept to a convenient size. The volume should be always at our elbow, and busy practitioners in these days are obliged to do their reading when they can, during their journeyings to and fro, and at odd moments. The book is too unwieldy, and we suggest to Dr. Brocq whether it would not be possible to carry out a considerable condensation. Much space might be saved by the elimination from the body of the work of many synonyms of diseases, such, for instance—to open the book at random—as Dasytes, Décoloration de la Peau, Décoloration des Poils, Defluvium capillorum, Delhi (Bouton de), Démodex folliculorum, Dépapillation linguale. These few headings alone occupy nearly a third of a page. Then, again, we find separate headings for Amboine, Bouton d', Bouton d'Amboine, Clou de, &c. Surely the synonyms might be conveniently consulted in an index or glossary, whilst the disease is discussed under its most appropriate name.

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* *Traitement des Maladies de la Peau. Avec un abrégé de la Symptomatologie, du Diagnostic et de l'Etiologié des Dermatoses.* Par le Dr. L. Brocq, Medecin des hôpitaux de Paris. Deuxième Edition corrigée et augmentée. (Paris, Octave Doin; London, Balliére, Tindall and Cox, 20, King William Street, Strand).

There are a good many alterations and additions in this second edition, but by the careful pruning of formulæ, and diminution of the size of the type, Dr. Brocq has produced a volume with about thirty pages less than in the first edition. But this diminution is fallacious, for the book is really larger and a franc more costly. In the first place, in response to the advice of others, the consideration of certain affections of mucous membranes has been introduced, *e.g.*, Aphthes, Vulvites, Balanites, Posthites, Glossites, and so on. For our part, we regret the introduction of these subjects under special headings, and fail to appreciate the preference given to the vulva and mouth over the nose, ear and eye. Secondly, a number of valuable new sections have been added, *e.g.*, on Actinomycosis, Morve et Farcin, Maladie pyocyanique, Parakeratoses, Télangiectasies verruqueuses, Dermatolymphangiomes, Comedons de l'enfance, Erythrodermiès, Idradénomes éruptifs, Intertrigo vacciniforme, Névrodermites, &c.

One of the evidences of the interesting character of the book is, that it bristles with points inviting discussion, and in the sections dealing with such subjects as Pemphigus, Dermatitis Herpetiformis, Alopecia, Folliculitis, Lichen, &c., every dermatologist will find suggestive material. The rapid march of progress so widens our knowledge of disease and constantly necessitates rearrangement, that some of the older generation of practitioners must feel lost in our modern text books. It is one of the happiest characteristics of Dr. Brocq's book that, whilst preserving as far as possible the older landmarks, it points out to us the direction in which the latest work is tending. It is important to note that the views of our French *confrères* as regards the etiology of disease, are now in close accordance with those held in these islands. Such an approximation of view makes the book very serviceable to practitioners here. In conclusion we will add a few words on the author's theory of *Lichenification of the skin.*

Starting from the well-known fact that a long-continued irritation of a particular part of the skin tends, sooner or later, to set up modifications of aspect, texture and function, he points out that in the skin in a morbid state, or predisposed to react to irritation, these changes will take place more rapidly and profoundly. Thus, scratching gradually sets up a chronic inflammation characterized by infiltration, thickening, hardness, rugosity, papillary hypertrophy and papulation of the skin. Soon the natural folds are exaggerated, and form a reticular pattern. When this state is brought about in a skin apparently healthy previously, he calls the lichenification *primitive*, when in a skin already attacked with a dermatosis, *secondary*. The want of recognition of these facts has been, Brocq thinks, a great cause of confusion in forming a true conception of various diseased conditions. We agree with the author but, without seeking to detract from the ability with which he has worked out this point, we feel constrained to say that we do not regard the theory as wholly original. The "scratched skin" is a formula all dermatologists appreciate. We were always taught, and have in turn taught, that it is one of the elementary principles of dermatology to clearly appreciate and recognize the group of phenomena denominated "the results of scratching," so that when we come to the diagnosis of any given case, these symptoms may be collected and cleared out of the way, and the primitive disturbance be thus unmasked.

CORRESPONDENCE.

ACNÉ CORNÉE—KERATOSIS FOLLICULARIS CONTAGIOSA—ANGIOFOLLICULITE KÉRATOSIQUE SIMPLE.

A Monsieur le Rédacteur en Chef du "British Journal of Dermatology."

TRÈS HONORÉ COLLÈGUE,—Dans le travail remarquable publié par H. G. Brooke sur la kératose folliculaire contagieuse—1892, xxii., "Atlas International des Maladies Rares de la Peau,"—l'auteur, qui veut bien rappeler que je désigne l'affection qu'il décrit, sous le nom d'angiofolliculite kératosique simple, objecte, contre la dénomination adoptée par moi, que les altérations vasculaires sont, dans cette folliculite, tout-à-fait secondaires. Tel est bien, aussi, mon avis; mais, par l'addition du radical *angio*—ἀγγεῖον—j'ai voulu dire seulement qui la lésion cornée folliculaire débutait par le *canal* des follicules et qu'elle y avait son siége. Il reste à débattre si le terme ἀγγεῖον peut-être pris dans le sens que j'ai adopté, disant angiofolliculite comme on dit angiocholite, sans que le système sanguin soit en rien intéressé; je me borne en ce moment à réclamer contre l'interpretation donnée par mon savant confrère, ou même simplement à expliquer la cause du malentendu.

Je vous prie d'agréer, cher collègue, l'expression de mes sentiments les plus dévoués.

ERNEST BESNIER.

To the Editor of the "British Journal of Dermatology."

DEAR SIR,—I beg to acknowledge the receipt of Dr. Besnier's note, in which he objects, in very courteous terms, to my interpretation of his expression *angio-folliculite*, as apparently implying some participation of vascular changes in the pathological processes which take place in follicular keratosis. The vascular changes are so slight in degree that I was at a loss to understand why they should have been specifically alluded to, and I therefore turned to Liddell and Scott's

Greek Lexicon to see if I could find any other interpretation for the word *angio-* than one involving some affection of the blood vascular system. I found that *ἀγγεῖον* had primarily the meaning of a vessel or hollow receptacle, but that as applied to the human body it was only used by medical writers to signify *blood-vessels.* This statement is borne out by a reference to the well-known "Thesaurus Linguæ Græcæ," ab Henrico Stephano (Henri Estienne), Edit. Hasc., Parisiis, 1831, which asserts that "*'Αγγεῖα in medicorum libris dicuntur venæ et arteriæ angustiore significatione,*" an extract from Galen being given as an example. Moreover, a passage is quoted from Aulus Gellius, in which he says, "*Vena est receptaculum sanguinis quod medici ἀγγεῖον vocant.*"

It is in its original significance that the term *angio-* is still used by medical writers in this country and in Germany. If the word *lymph-* be prefixed, the term is then understood, in all countries, to apply to the lymphatic system. But the concoction and use of such words as *angiocholite* and *angiosialite* (Littré and Robin) are purely French. They are unknown in our medical works, and I can find no mention of them in Ziegler's "Pathologie." The nearest approach is the reversed compound *cholangitis,* which is employed by Naunyn.

Still, all these various terms, although deviating from the original meaning of the word *ἀγγεῖον,* as used by the Greeks, do imply distinctly a system of tubules or canals in which fluid circulates or flows; the fluid, when other than blood, being specifically mentioned by the addition of some qualifying word. In accordance with the analogy which Dr. Besnier claims to hold good in his case the word *folliculite* ought, therefore, to signify some form of body juice which runs through a system of tubules or canals. I cannot but think that it would be most unfortunate if this word *angio-*, whether used as a prefix or affix, were to be so far twisted out of its generally understood meaning as to be made to denote a hair follicle, as our esteemed colleague suggests. For a hair follicle can in no sense be regarded as a "canal," and if the connotation of *a vessel containing running fluid,* which the word now bears, be in any way interfered with, the meaning of a large number of absolutely essential and well-known terms, such as *angiectasis,* would at once become confused beyond redemption.—I remain, dear Sir, yours faithfully,

H. G. Brooke.

CURRENT LITERATURE.

TWO CASES OF HERPES IRIS. Dr. IVAN F. ZELENEFF. (*Vratch*, No. 34, 1891, p. 778.)

At a recent meeting of medical men attached to the Kïev Military Hospital, Dr. Zeleneff showed two interesting cases of herpes iris, occurring in soldiers, aged 25 and 21, respectively. The former had been admitted to Professor M. I. Stükovenkoff's clinic, about three months previously, with general weakness, high fever, and a vesicular rash over the limbs and on the glans penis. The vesicles, containing clear serum, were arranged in concentric groups. In the course of time some of the vesicles dried up into crusts, while others coalesced and, rapidly growing larger, formed pemphigoid bullæ, measuring three or four centimeters in diameter and containing turbid fluid. From time to time there would crop out some fresh vesicles at the periphery, as well as erythematous patches (on the forearms and back), papules, and papulo-vesicles—lesions *en cocarde*, the exanthem always involving new areas of the integument. It went on in this way for about nine and a half weeks, the patient continuing to suffer from fever all the while. Later on the febrile disturbance ceased and the cutaneous phenomena began to steadily subside. When the patient was shown to the meeting, there could still be seen groups of minute papulo-vesicles on the lower thirds of the forearms and legs, presenting characteristic concentric zones of a rose, whitish and dark violaceous colour, while the whole body, face and the remaining parts of the extremities were dotted with grouped pigment spots of various sizes. The mucous membranes had remained intact all through. Examination of the patient's blood gave the following results:—The number of red blood-corpuscles was 4,420,000; that of leucocytes, 13,600 (the proportion, therefore, being = 1·328); the proportion of hæmoglobine = 12·72 per cent,; that of oxyhæmoglobine = 9·95 per cent. The treatment consisted in warm baths of one or two hours' duration.

The other patient had suddenly fallen ill with prostration, intense fever and a vesicular rash (on the lips, nose and eyelids) twenty-six days previously to the meeting. On the fourth day the exanthem spread to the ears and limbs. When examined on the eleventh, the lips were found to be lined with thick, dry, black blood clots, beneath which there could be still discovered collapsed bullæ and erosions, the lesions involving the adjacent labial and buccal mucous membranes. The soft palate, faucial arch and palpebral conjunctivæ were congested and studded with white bullæ; the canthi and eyelashes showed abundant accumulation of scab, the nostrils being occluded with black blood coagula. Over the skin of the eyelids and chin, as well as on the ears, there were scattered yellowish scabs; in the latter situation the deposits were surrounded by coalescing pustules. The lower third of the forearms and the dorsal surface of the hands proved to be occupied by grouped, partly discrete, partly confluent papules presenting four zones, one of which, the peripheral, was of a rosy colour; another whitish rosy, with serous contents; a third, dark violet, with hæmorrhagic contents; and the fourth, or central zone, consisted of a white detached cuticle, or of a dry yellowish-brown scurf. There were also present papules on the palms and soles, in which there could be differentiated mainly two zones—a peripheral or serous, of a light tint; and a central or hæmorrhagic, of a dark violet colour. The digits, palms, and soles were swollen and tender; the tendon reflexes were exaggerated. A comparative examination of blood taken from one of the affected fingers and from a sound area of the arm gave the following figures respectively:—The number of red blood-corpuscles = 5,680,000 and 5,000,000; that of leucocytes = 15,400 and 14,000 (the proportions being, therefore, = 1·368, and 1·357); the proportion of hæmoglobine = 18·79 and 14·82 per cent.; that of oxyhæmoglobine = 11·18 and 11·79 per cent. Later on there supervened diarrhœa, diffuse abdominal pain, hæmaturia, severe pain about the knee-joints and crural muscles. On the twenty-third day the cutaneous symptoms commenced to improve, the rash leaving behind pigment spots.

Analyzing his cases and discussing the nature of the affections, Dr. Zeleneff argues that herpes iris (hydroa vacciniforme or *en cocarde*, herpes annularis vel circularis) constitutes a disease attacking not only the skin, but the internal organs as well, and that it should be regarded as a combination of papular erythema with a pure vesicular herpes.

VALERIUS IDELSON (Berne).

A FURTHER COMMUNICATION CONCERNING THE METHOD OF APPLICATION AND THE EFFECTS OE THIOSINAMINE.

Owing to numerous inquiries, Dr. Hebra publishes the following remarks on thiosinamine (*Klin. Rundschau*, No. 39, 1892).

"At the outset I wish to correct an erroneous impression that thiosinamine is to be applied to the seat of the disease. In my preliminary communication I thought I had sufficiently accentuated this point. It is administered subcutaneously in an alcoholic solution, and its action is *limited to the diseased area.* Either no external application, or only indifferent ones, were used locally.

As a rule I chose the skin of the *back* between and below the shoulder blades for subcutaneous injection. The needle, which should be a *very fine* one, is thrust into the back muscles and the fluid gradually injected. The alcoholic solution causes slight smarting which, however, does not last above a minute, and even then may be mitigated by pressure of the thumb, which disperses the injection into the surrounding tissues. Absorption takes place quickly, and the patient after a few minutes perceives a garlic-like taste in the mouth. As mentioned in my first paper, the *reaction in the diseased area* only manifests itself some hours later.

I can at present only speak definitely about cases of lupus and of trachoma also of caries and necrosis of bone. From my observations I have reason to believe that there are many other inflammatory affections that may show this local reaction. It is just this *eclectic action* on morbid tissue that I wish to emphasize. Thiosinamine differs materially from tuberculin in that *its action is not confined to tubercular tissue.*

This peculiar action on tissues—the outcome of inflammatory processes—must guide us in the choice of the cases we wish to submit to this line of treatment.

Generally speaking, we should only use allyl-sulphocarbamide in those where inflammation has run its course, lest its sudden increase should prove injurious. *In cases, therefore, of active inflammation, the drug should be used with great caution, and only when we have good grounds for thinking that the reaction will be of benefit, e.g.*, in lupus.

I have alluded to the precautions necessary in eye affections, and I merely add here that in cases of lupus and *old-standing bone-mischief* I have also observed intense reactive inflammation accompanied by suppuration and the formation of sinuses. Even then I believe the medicament may be beneficial, as it accelerates the formation of sequestra, and consequently expedites cure. These facts will suffice to indicate, in a measure, the choice of cases. So far, I have no experience of the action of thiosinamine in other dermatoses, *e.g.*, eczema, psoriasis, and lupus erythematosus.

The reaction in lupus tissue lasts several hours, and then gradually subsides. After a series of injections the reddened condition of the part persists for some days even after cessation of the treatment. It is, therefore, advisable to wait ten days until the irritation has passed off in order to judge of its beneficial effects.

As previously stated, the action of thiosinamine is most marked in *scar-tissue*, and in no other neoplastic formation is this change so striking. The drug, so to speak, makes straight for cicatricial tissue, which becomes soft and resilient in a relatively short time. Not only are contractions due to skin-scars removed, but even the deformities arising from shortened tendons and matted tissues are remedied. I hope to publish the results of this treatment in as large a number of cases as possible.

As regards the quantity of *thiosinamine*, I have employed a 15 % *solution in alcohol.** Before use, the solution should be filtered, in order to get rid of any mechanical impurities. At first an amount equal to two or three divisions of a Pravaz syringe—from ·30 grm. to ·45 grm. of thiosinamine [5 grs. to 7½ grs.]—was administered. This was done twice a week. This dose was readily borne, and caused the patient no more uneasiness than if aq. dest had been injected. Nevertheless, distinct improvement was noticeable locally. In lupus of any extent this small dose had scarcely any appreciable effect; in eye affections, however, it produced a considerable increase in intensity of the inflammation.

The *intensity of the reaction varies inversely as the extent of the disease.* If the diseased area is large, then the local reaction is less marked with the same amount of injection, and the smaller the patch of disease the more intense the reaction.

Hence small doses should be given at first and continued when the area of disease is trifling, but increased when extensive. In lupus cases half a Pravaz syringe may be injected during the third week, and between the fourth and fifth week a syringeful of the 15 % alcoholic solution may be given.

This is continued as long as the typical reaction follows. In one case it lasted from two to three months. Should toleration supervene, the injection may be stopped for two or three weeks, and when resumed the reaction ensues as formerly. In some cases 1½ syringefuls, and even two, were given at one time without any untoward symptom. The latter quantity was not exceeded for the simple reason that it sufficed to produce a curative effect.

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* Dr. Rosenberg, chemist, 1, Fleischmarkt, Vienna, keeps thiosinamine in stock and prepares the alcoholic solution.

We used an ordinary Pravaz syringe with a well-fitting plunger. As this tends to shrink owing to the alcohol, the syringe should be well washed out with water after each injection. A syringe shown by Gutentag, of Paris, at the late Dermatological Congress, with the plunger made of gutta-percha, which can be relaxed or tightened by a simple screw mechanism, is a great improvement."

FRANK H. BARENDT.

ON THE CAPILLARY LYMPHANGIOMATA OF THE SKIN, AND THE RELATIONS OF LYMPHANGIOMA CAPILLARE VARICOSUM TO ANGIOKERATOMA. Dr. LUDWIG TÖRÖK (Budapest). *(Monatshefte für Prakt. Derm.,* Band XIV., No. 5, March, 1892.)

In an article published by Török in conjunction with Finch Noyes, on a case of Lymphangioma circumscriptum (or L. capillare varicosum), the lymphangiomata of the skin proper were divided into three classes :—(1.) The varicose lymphangioma; (2.) The tuberous (fibromatous) lymphangioma; (3.) The cavernous lymphangioma.

The capillary varicose lymphangioma develops generally in the early period of life, occurring in various parts of the body in the form of well-circumscribed patches, varying from the size of a shilling to that of the palm, of clear, transparent vesicles, closely packed, raised above the surrounding surface, and covered here and there with a thickened horny layer. The vesicles are from the size of a pin to that of a pea; are situated on normal or slightly reddened skin, and frequently show on their surface blood-capillaries, running singly or in groups. They are hardly compressible, and on puncture exude a small quantity of clear fluid which is alkaline and albuminous, and contains a few white blood-corpuscles. These vesicles frequently contain blood, and have then a brown or reddish-brown colour. The affection spreads by agglomeration of discrete vesicles into groups. It extends but slowly and causes no subjective symptoms. In individual cases it is accompanied by recurrent attacks of erysipelatoid inflammation and may then pass into elephantiasis. Similar vesicles and groups of vesicles are found in conjunction with congenital elephantiasis, and in the various forms of angioma of the larger and deeper lymph-trunks.

Microscopically the capillary varicose lymphangioma presents itself as a new growth of lymph-vessels, and partially of blood-vessels, the latter being converted into wide, twisted canals and cavities. Signs of both homoplastic and heteroplastic neoplasia are evident in the lymph-vessels and also in the blood-vessels, but with much less frequency. It is specially noteworthy that the greater part of these cyst-like dilatations of the vessels are filled with a finely granular coagulated mass containing a number of white blood-cells, and that a direct connection can be demonstrated between these cavities and the lymph-capillaries. The dilated blood-capillaries of the papillæ are often pushed aside right against the epithelial layer, or force themselves through the septa which separate the lymph-spaces from one another. The connective tissue of the papillary layer contains a considerable quantity of cells, especially in the neighbourhood of the vessels.

Out of this group are eliminated the "lymphangiectasis or lymphatic warts of children" of Colcott Fox, or angiokeratoma of Mibelli and Pringle.

The tuberous (fibromatous) capillary lymphangioma contains only the "lymphangioma tuberosum multiplex" of Kaposi, an affection of which the original description was not very clear, and which is now recognized as being identical with hydradenoma (syringo-cystadenoma, epithelioma cysticum benignum, multiple epithelial eruptive celluloma) by Jacquet, Lesser and Beneke, Török, Philippson, and Besnier.

The cavernous capillary lymphangioma comprises the two cases of Pospelow and Van Harlingen. The tumours vary from the size of a pin's head to that of a nut and even of a pigeon's egg. They are of a blue violet colour, compressible, and feel to the touch like an air-cushion. When cut they exude some cloudy, gelatinous fluid. Microscopically they present the well-known picture of a cavernous lymphangioma.

Besnier has disputed this division, and placed the cases of Colcott Fox, of Noyes-Török, and a case of L. circumscriptum by Schmidt, under the heading Pseudo-lymphangioma. In his opinion they are not lymph vascular growths at all, but true hæmangiomata, in which the blood-cysts have become filled with serum and converted into clear vesicles (Jacquet). All the other cases grouped by Török as varicose lymphangiomata he classifies under the head of Lymphangioma cavernosum.

Smet and Bock take a somewhat similar view, denying that the cases of T. and C. Fox, Hutchinson, Crocker, Hayes, Walsham, Köbner, M. Morris, and Noyes-Török are lymphangiomata, and grouping them, with a similar case of their own, as *Angiomes kystiques*. They also agree with Besnier-Jacquet that the lesions begin as aneurisms of the blood-capillaries, which are finally converted to serous cysts.

It would be impossible to reproduce briefly all the details of the admirable criticism to which Török subjects these views. He points out that in the cases which he has classed as lymphangioma circumscriptum vel capillare varicosum, the smallest lesions are generally clear vesicles, and that only some of the vesicles in Besnier and De Smet's cases are described as of a red or purple colour; that microscopically the new formation of vesicles is quite subordinate to the lymphatic neoplasm, and that many of the supposed blood-serum cysts become red presumably by the bursting of capillaries into their interior. If the cysts did actually begin as hæmatomata their red colour could be recognized clinically and their evolution to serum cysts followed out; but none of the writers who uphold this view have given any description of the constriction and shutting-off of these cysts from the blood-vessels, and the reddening of already clear cysts, which they would have to explain by the secondary rupture of a neighbouring blood-vessel, has been actually seen (Török) as occurring in undoubted lymphatic cysts into which small capillaries have burst. Moreover, in Schmidt's case there were none of the blood-containing cysts which are generally found in these cases of lymphangiomata, and, indeed, no change at all in the blood-vascular system.

As regards angiokeratoma, Mibelli has shown that there is a great similarity in build between it and the capillary lymphangioma, with the difference that the one affects the blood-capillaries and shows both a homoplastic and heteroplastic neoplasm of those vessels, commencing clinically with small red points; whereas the other starts in the lymph-vessels, and commences with small clear vesicles. But in the latter the blood-vascular system is also involved in the neoplasm, whence the few red points which are also noticed in them lying amongst the clear vesicles. The lymphangioma capillare is therefore a mixed tumour, in which, however, the lymphatic element so much preponderates that Török allowed the name to stand unaltered. So, too, Mibelli kept the name angiokeratoma, inasmuch as, although the lymph-vessels are to some extent involved in the new growth, they play such a very subordinate rôle, the cysts which they form generally communicating in the end with the capillaries, and becoming through them filled with blood.

The probable explanation of some of the observations (Jacquet, De Smet and Bock, Thibierge) is therefore that of these mixed tumours (lymphangiomata), such parts have been taken which were particularly dark-coloured, and therefore most hæmangiomatous, and that the larger development of the blood-vessels in these parts, with consequent secondary hæmorrhages into the lymph-cysts has misled the observers as to the relative importance of the parts taken by the two vascular systems. The objection that the quantity of lymph which exudes on incision into the vesicles is too small to allow of the supposition that they are connected with the lymph-vascular system is negatived by Kromayer's discovery that the lymph capillaries and clefts are ordinarily almost empty; only in cases where the injured vesicles lie near to large lymph-trunks (Schmidt's case) can a more copious flow be looked for.

Török, therefore, maintains on the whole, his original division. To the class of *L. capillare varicosum* he assigns the three cases of Hutchinson, the cases of T. and C. Fox, Köbner, Noyes-Török, Crocker, Walsham and Hayes, and also those of Schmidt, Smet and Bock. To these are closely associated the cases of Leistikow and Besnier ("*L. cavernosum*"), in which there was also a fibroma formation, *L. capillare varicosum fibromatosum*, and finally cases in which the blood-vascular system takes a much more active share in the neoplasm, one case of Besnier's ("*Hémangiome*") and one of Thibierge, *Hæmatolymphangioma capillare varicosum*, which form a connecting link with the angiokeratoma of Mibelli, *Hæmangioma capillare varicosum keratoides*.

The original contains an excellent detailed analysis of the more recent cases.

H. G. B.

THE ANATOMY OF VARIOLA AND VACCINE PUSTULES. DR. TH. BURI (*Monatshefte f. Prakt. Dermatologie*, Bd. XIV. No. 1.)

The peculiar tissue changes which lead to the development of the variola and vaccine pustules have been many times investigated, but with curiously varying results. Dr. Buri has examined a large number of sections taken from two epidemics of small-pox, and by the aid of perfect series of sections (which he considers indispensable to such an investigation) and fresh staining methods (chiefly orcein-methylene-blue double stain) he claims to have thrown fresh light on some previously doubtful points in the histology of these lesions. Of the former descriptions one of the most important is that by Auspitz and Basch; but Buri considers that they overlooked some essential points by making use of lateral sections only, and not comparing them with the appearances in central sections. According to these authors—(1.) The primary alteration is an inflammatory process with dilatation of vessels, new formation of cells in the papillæ, and swelling of the cells of the rete to form a papule; (2.) In the second stage, that of the vesicle, a network is formed in the centre of the nodule out of old flattened cells of the rete, in the interspaces of which cells are found suspended in fluid; (3.) The network extends downwards; through increase in cell production a pustule arises; (4.) The inflammatory process finishes with the capsuling of the pustule, and the re-formation of the epidermis under it.

According to Rindfleisch the papule originates in a circumscribed parenchymatous inflammation in the middle cell layers of the epidermis; serum infiltrates through from the papillary body, works between the layers of the rete, which it pushes aside both laterally and vertically to form a vesicle, the interior of which is divided into compartments (*gefächert*). The pus-cells originate from the deeper layers of the rete and convert the vesicle into a pustule, the suppuration becoming in some cases catarrhal or diphtheritic, and leading to the production of scars if the papillary body is destroyed.

Weigert's views (1874) are quite opposed to these. In his opinion the entrance of the variola poison causes a primary cell necrosis without inflammation; out of the prickle cells arise primary accumulations of non-nucleated clumps, necrotic masses, which he calls diphtheritic foci. These foci are the essential characteristic of the pock process, they determine the architecture of the pock; everything else, suppuration, cavity formation, proliferation in the lateral parts are all secondary in nature, brought about by the irritation which the necrotic masses set up in their neighbourhood. Weigert has, however, a monopoly of his views, which have found opposition from all subsequent investigators.

Ebstein thinks that the exuded serum is taken up by the horny layers. It destroys or widens, in the first place, the superficial cells of the rete close under the horny layer, and later affects also the more deeply situated cells. The interpapillary cells resist for a long time and thus come to form the beams *(Balken)* of the vesicle *(Ebsteinsche Fächer.)*

Leloir (1880) enters more fully than his predecessors into the cellular changes which lead to the formation of the vesicular condition. These changes begin with the formation of a clear zone between the nucleus and the protoplasm, which grows gradually bigger; sometimes the nucleus remains, at other times it breaks down, leaving nothing but a large hole in the centre of the cell. The papular prominence arises from the evident cell-proliferation (obviously, therefore, not a necrotic process), the increase in circumference of the prickle-cells, and the inflammatory hypertrophy of the papillæ. The perinuclear hole continues to increase in size, and the cell protoplasm becomes compressed to a thin layer, which looks in section like a fibril, the prickles disappear, and finally the dilated cells rupture into each other, forming a single vesicle or pock, of which the cell remnants constitute the partitions. (Thus, whereas, according to the former investigators, the cells are torn apart by the accumulation of serum from without, in Leloir's view they are burst open by pressure from within.) These little holes become filled with pus, forming small intra-epidermic abcesses, sometimes situated in the superficial layers of the epidermis. The holes open into one another, they become filled with pus and fluid, the horny layer resists the tension, and is lifted up and the pustule results. Apart from and within the epithelial network, a second and much finer mesh is formed from slender threads of fibrin.

The specific changes which the variolar process calls forth are best observed in an early papule two or three days old, in which the details have not yet become obscured by suppuration. On examining such a papule microscopically it will be found that what appears clinically to be a solid inflammatory papule is really a vesicle formed by a conglomeration of small cavities. Under a low power the vesicle appears like a planoconvex or biconvex lens lying in the epidermis.

The pock covering is composed of all three layers of the epidermis, prickly, granular, and horny, and is generally very thin in the centre.

The epithelial cords, or rafters, pass from the base to the roof in either an upright or radial direction. They are chiefly produced by compression of the prickle-cells, as is shown both by the staining and by the nuclei which they contain. That they are not horny (Weigert), or only seldom, is proved by the red staining with picrocochinilla, and by the absence of kerato-hyalin; nor are they necrotic masses (Weigert), for they have often nuclei and all the characters of cells, but are simply prickle-cells which have been compressed by their swollen neighbours and preserved provisionally from destruction by their degeneration. Their arrangement is very varied in different specimens, but generally speaking it is somewhat fan-shaped, the point of the fan being at the base of the cavity. The epithelial column which is found in the middle of many of the cavities has also probably been preserved from degeneration by compression, a compressed sweat-gland duct appearing clearly to form the centre in some cases. Septa of a third and fourth class are also found, fine threads, which probably owe their origin not to compression, but to a special form of degeneration, to which Unna has given the name of *reticulating degeneration.* The cell *in toto* becomes dropsical and swells out, the prickles disappearing. The protaplasm is split up by the œdema into a finely granular, thread-like network which connects the nucleus with the cell-membrane. The nucleus shrinks and the œdema increases until the cell-wall bursts and a minute cavity is produced, filled with fibrin coagulum and remnants of the nucleus. Through rupture of the septa between numbers of these little cavities, caverns of increasing size are produced, which keep on spreading outwards and downwards. It will be seen that this process is practically a further development of Leloir's *altération cavitaire.*

At the base of the pock cavity is found another kind of degeneration which Unna has named *ballooning degeneration*, a process which he first noticed in studying varicella and zoster, and which is found in those diseases in a much more developed form than in variola. The cells swell out and separate themselves, either singly or in groups of three or four. The protoplasm becomes cloudy but the nucleus (contrary to Weigert's assertion) remains intact. Sometimes the protoplasm retracts, leaving a cavity, with one or two nuclei. In other specimens the process will be found to be much more exaggerated, the cells being so swollen that shapeless tube-like figures result, and the protoplasm so retracted that large holes are produced in which four to six big nuclei lie. In varicella and zoster this increase of nuclei is at its maximum, six to eight, sixteen, twenty, even thirty and more being packed in one cavity, like balls in a sack. Hence the name, ballooning degeneration. The loss of the prickles and the consequent dislocation of the cell from its place causes the ballooning to make cavities like the reticulating degeneration; they differ, however, in the sites of the cavities, which are intercellular in the one case, intracellular in the other. In varicella, and especially in zoster, the ballooning is far the more active process, whilst in variola the reticulating alteration plays the chief part. Both processes, however, are at work in variola, and specimens which are taken before suppuration has occurred show clearly that the cavity formation is due to their action alone, and not to that of the suppuration, which only plays a secondary part.

The cavities begin in the highest and middle layers of the stratum spinosum, and as the upper layers of the epidermis resist the action of the poison, the extension of the process is mainly directed downwards. So in older pocks the papillæ, stript of all epithelial covering, project directly into the pock cavity. The fact that the reticulating process is almost exclusively found in the higher strata of the prickly layer, and the ballooning in the lower, is probably accounted for by the different resistance of the cells, due to the difference in age, the upper cells having lost their capability of dividing their nucleus, and being less capable of resistance than the younger cells of the lower layers.

The base of the pock, in the earlier stages, is covered with epithelium, showing more or less traces of degeneration, some having become partially loosened from their fellows, as above described. The papillæ in the centre are enlarged, but if much compressed are flattened, whilst those at the side are always considerably enlarged, owing to the pronounced proliferation of the epithelium. The cutis shows only the usual signs of inflammation, with œdema and masses of wandering cells and pus-cells on their way to the vesicles.

Weigert's clumps of non-nucleated cells, so far from being, as he supposed, the first signs of the pock formation, are really only found in a few of the early lesions, in many they are absent altogether. Buri thinks that they are probably artificially produced by the action of Müller's fluid, or that the epidemic which Weigert examined must have been marked by an exceptionally strong poison.

The sides of the pock are distinguished by a lively cell proliferation, which in combination with the œdema greatly thickens the epithelial wall. All conditions of the epithelium are found, from the normal to the cells which have undergone reticular degeneration and are helping to enlarge the original vesicle.

The suppuration begins at a very early stage, both in the cutis and the pock cavity, but at the acme the infiltration is often so great that the tissues can hardly be seen. Not only the main cavity but the accessory cavities are enormously distended, as well as the epithelial cords which have held the roof down, and are permeated with leucocytes and broken through, thus again increasing the size of the pustule.

The formation of a dell or hollow on the surface of the lesion is not pathognomonic of variola, being found *e.g.* in acne varioliformis, vaccinia and occasionally in varicella. Auspitz and Basch thought that the pus, owing to deficient secretion and to absorption, was insufficient to fill up the network of cavities, and that the roof of the pock collapsed accordingly. Rindfleisch considered that the depression was due to the action of the epithelial cords, which served as retinacula to hold the roof down. Weigert agreed that these retinacula are essential to the formation of the dell, but asserted that the active and primary influence was the raising up of the sides by the rapid proliferation of the epithelium. When the retinacula are torn through, as they are at the end of the acute stage, the dell disappears. Buri agrees with this view, and finds that where a dell exists it is always held down, not by Weigert's diphtheroid cells, but by a hair-sac, a sweat-duct, or an epithelial cord which has escaped degeneration. An under-dell is formed in the base of the pock, where the horny layer, as on the palms and soles, is so thick as to resist the pressure of the proliferating epithelium at the sides. This pressure is consequently directed downwards instead of upwards, and the cutis projects from below into the pock cavity.

The healing process is of the greatest importance, not only from a theoretical but from a practical point of view, on account of the great disfigurement by which it is often accompanied. The contents of the pock dry up to form a crust, underneath which an attempt at a line of demarcation is formed. A new epithelial membrane, composed of prickle-cells alone in the middle, but all three layers at the edge, passes under the crust. Owing to the pressure of this crust downwards the papillæ are flattened out, and it is to this flattening and not to a destruction process caused by suppuration that they are sometimes permanently lost. The effect on the healing process is the destruction of the superficial rhomboids of the upper skin, and the consequent production of smooth, shining scars. On the thickness of the crust depends the amount of downward pressure, and the more or less crater-like form of the scar. If the crust be small, and the hole not deep, the epithelial membrane has a good chance of thickening quickly, and the papillæ not having been completely crushed, there results scar which, though flat and dull, is yet so slightly depressed as to escape notice.

This points clearly to the two main indications for the local treatment of the pocks :—

1. The loosening of the compressing crusts before the new epithelium has grown under them; and

2. The promotion of the rapid proliferation of the epithelium by such means as alkaline lotions, baths, or, perhaps better, by salicylic plaster mull.

If the favourable time has gone by, and a depressed, shining scar has already formed, an attempt should be made to shake off the top skin with a resorcin paste, and thus raise the papillary body, and then aim at the production of a better scar under a zinc-gelatine glycerine dressing.

One very important matter is the prevention of the secondary infections which play so great a rôle in the destruction of the papillary body. The cutis takes a quite subordinate part in the pock formation, and Buri was never able to find any papillæ which had been destroyed by suppuration alone. If, however, the door is opened to various pus-cocci by the scratching of the lid off the pock cavities, the greatest attention must be paid to disinfection by means of antiseptic dressings. Schwimmer believes that such precautions limit the vitality of the supposed variola organisms.

H. G. B.

MYCOSIS (GRANULOMA) FUNGOIDES. (*Clinical Soc. Trans.*, London, Vol. XXV., 1892.

PYE-SMITH records an instance of this disease occurring in a man of 66 years. The patient was subject to a somewhat patchy, dry, common superficial dermatitis, "such as would, by most dermatologists, be admitted as eczema," not painful, or constantly irritable, occupying the chest and part of the abdomen and back, neck, face, fore-arm, and legs below the knee. There was considerable thickening of the skin, and subcutaneous œdema. After the eczematoid condition had lasted about a year probably, localized swellings appeared, unaccompanied by fever, and not affecting the general health, somewhat slow in development, going on to suppuration, with the gradual production of exuberant granulations. A feature of the case was the large amount of clear, colourless, albuminous, alkaline, watery fluid exuded from the exuberant granulations. Most of the tumours after long and slow growth developed a central slough, with renewed suppuration, and afterwards healed, leaving a superficial scar. The patient's appetite and strength suddenly failed, he became delirious, with moderate rise of temperature, a pustular hæmorrhagic eruption appeared on the face and on the lower extremities, accompanied by redness and swelling not unlike that of erysipelas; the temperature then became subnormal, and the patient died from failure of the circulation. The duration of the disease appears to have been about fifteen months. The chief features disclosed by the autopsy were adherent pericardium and pleuræ; bulky, œdematous lungs with spots of hœmorrhage, and a patch of gangrenous pneumonia; fatty liver in a state of early cirrhosis; and a large white tumour in the left adrenal. Microscopically the skin tumours consisted of leucocytes, small and uniform in appearance, with very scanty intercellular stroma. The adrenal tumour "presented a similar appearance, but some sections had better developed and more abundant intercellular fibrous tissue, so as to resemble a lymphoma, and others might be fairly described as showing the structure of a small round-celled sarcoma." No micro-organisms could be detected or cultivated during life or after death. T. C. F.

LUPUS ERYTHEMATOSUS WITH FATAL COMPLICATIONS. (Correspondence, *Journ. Cut. and Gen.-Urin. Dis.*, July, 1892).

Dr. Hardaway, of St. Louis, describes a case of lupus erythematosus with fatal complications. He had already recorded a similar case in the *Journ. Cut. and Gen.-Urin. Dis.*, December, 1889. In that first case a gentleman, aged 28, came under observation with acute dermatitis of the nose, cheeks and ears. After treatment the typical features of an erythematosus lupus stood revealed. The backs and palms of the hands, the dorsal and plantar surfaces of the feet were affected and there were deep boring pains in the limbs. After the use of an irritating salve to the face, local swelling set in with fever, and the neck glands enlarged, whilst dark red eruptive spots appeared on the forehead, chin and over the thorax. The patient fell into a typhoid condition with a temperature reaching to 104° F. Gradually the temperature decreased somewhat, and the lupus underwent complete involution; but gland after gland became tuberculous, hectic supervened, and the patient succumbed to an intercurrent pneumonia. The second case now recorded was a girl of only 14 years of age, who had enjoyed good health previously. Her parents were alive and well, but the girl's maternal grandmother died of phthisis, "as also did a brother and sister."

A well-defined reddish eruption appeared suddenly, and without general symptoms, on the nose and malar regions, and soon assumed the butterfly pattern. A few weeks later the eruption was more pronounced, and darker red in colour, with more defined borders. The menses then ceased, the temperature became elevated (102°F.–103° F.), and the tongue coated. Hardaway diagnosed lupus erythematosus confluent on the nose and cheeks, discrete on the forehead and chin, ears and thorax. As in the former case, there were honey-like crusts over the butterfly area. Only a little more than one month after the onset the general condition became critical, the eyes injected, pulse 120 per minute, temperature 103° F. There was complete anorexia, dirty brown tongue, abdominal pain, obstinate constipation, purulent discharge from the ear, and moderate swelling of the submaxillary glands.

The temperature reached 105° F., the pulse 150 per minute, and she died of general septic infection (?). There was not apparently any post-morten examination. Hardaway only saw this interesting case in consultation, and the record leaves much to be desired. T. C. F.

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